



Report from a slop bucket

March 2009

Stockholm Consumer Cooperative Society

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The Stockholm Consumer Cooperative Society is a membership organisation with a good 600 000 members. Its task is to provide member benefits by influencing the cooperative retail sector, influence public opinion on consumer issues and to communicate information, knowledge and member benefits. The society is a shareholder in the Swedish Cooperative Union (KF).

SUMMARY

The Stockholm Consumer Cooperative Society (KfS) has had three different studies carried out on the subject of food waste. As with many other players who work with food waste issues, KfS has ascertained that there is a lack of knowledge where food loss is concerned, i.e. food that is thrown away for various reasons, in Sweden. The aim of the studies is to collect knowledge on how much of the food waste from households is thrown away unnecessarily and the attitude of each individual to best before dates and food waste. The knowledge will be used to endeavour to reduce the unnecessary food waste of households and thereby also reduce the impact of unnecessary food waste on the environment.

The KfS has carried out three studies: a composition analysis where the household waste from 72 households was sorted and analysed, an attitude survey where approximately 1 200 people in Sweden responded via a web survey to questions on best before dates and food waste, plus eleven interviews with consumers in food stores on the same subject.

More than half of households food waste is unnecessary

- The composition analysis was carried out on one week's household waste from 72 households in a residential area in Bromma outside Stockholm.
- The purpose of the study was to find out how large a share of the households' food waste was unnecessary. By unnecessary food waste, we mean food that could have been eaten had it been handled correctly. Examples of unnecessary food waste are mouldy bread and leftover food that people do not want to save for some reason to eat at a later stage.
- The composition analysis shows that the households studied discarded 5.6 kg food waste (per household) during week 49 of 2008. This is at a level with Avfall Sverige's key ratios for one week's food waste in single family houses (4.8 kg).
- 57 per cent of the food waste was unnecessary food waste.

The survey was carried out by Miljö- och projekteringsbyrån i Mälardalen AB. More information on the composition analysis can be found on page 8.

The best before date leads to food being discarded unnecessarily

- The attitude survey was answered by 1 196 people in Sweden between the ages of 18 and 74 via a web survey.
- One third (33%) completely agree that best before dates on foods are often a reason why they discard food. Another one quarter (24%) partly agree. Women agree to a greater extent than men, as do people between the ages of 18 and 49.
- An alternative labelling to "best before" could be "keeps until at least". Six out of ten (62%) think that "keeps until at least" is a better label than "best before".

The survey was carried out by the market research company YouGov. More information on the attitude survey can be found on page 11.

Date labels - important when you are shopping

- The consumer interviews were held on 28 February 2009 with people who shopped at Coop Forum in Bromma or Coop Konsum in Hammarby Sjöstad. A total of eleven interviews were held.
- The result shows that the majority see on date labels on packaging in the store and choose a date that is as far ahead as possible.
- Several of the interviewees say they think it is difficult to calculate the correct quantity of food and use the leftovers¹ as well.

The interviews were conducted by freelance journalist Anna Förster. More information on the interviews can be found on page 18.

The conclusions in brief

The basis for the composition analysis is not large but our opinion is still that the figure of 57 per cent unnecessary food waste is reasonable, bearing in mind that the comprehensive British study², to which we refer on several occasions in the report, shows that 61 per cent of the food waste from British households is unnecessary.

The results of the attitude survey provide a few explanations as to why food is thrown away unnecessarily. A remarkable number of people discard food whose best before date has passed. However, if the food has been stored correctly and also smells and tastes good, it is usually OK to eat even if the best before date has passed.

Another important reason why food is thrown away unnecessarily today may be that many people can purely and simply afford to. Throwing away food is an embedded and accepted habit in the system in which we live.

Proposed measures

1) KfS believes that information is needed at different levels of society to...

- ...increase awareness and understanding of the impact that the discarded food has on the environment and the global food supply,
- ...increase the knowledge of the shelf life of food, the meaning of the date label, storage of food, etc. (focus on young people),
- ...increase the knowledge of how best to take care of buying food for a household, use leftover food, plan weekly menus, etc.

2) KfS also believes that the current “best before” date label should be replaced by “keeps until at least”. KfS believes that the concept “keeps until at least” better describes that the food can usually be eaten even after the “date” has passed, provided it has been stored correctly and tastes and smells good.

¹ Translator’s note: it is not clear whether cooked (not necessarily served) leftovers are meant or (e.g.) a few slices left in an opened loaf of bread later in the week, i.e. remaining food. Also applies elsewhere.

² The food we waste, 2008, WRAP, www.wrap.org.uk

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1 INTRODUCTION

1.1 Background

A considerable share of the food that is produced daily is thrown away or is lost somewhere along the journey from field to table. There are no definite figures on the extent of the loss in the various stages of the food chain. The loss varies a great deal depending on the product but to say that 10-50 per cent is thrown away or is lost along the chain is a reasonable estimation. In this report, we focus on the food loss that arises in each individual household. A household's food waste can consist of banana skins, chop bones, egg shells, cores and other things that we do not want or are not meant to eat, but it also includes food that could have been eaten. The fact that edible food becomes food waste is silly not just from an economic point of view but it also has far-reaching impacts on the environment.

1.1.1 The unnecessary food waste and the environment

Food is produced, transported and stored and thus contributes to the environmental impact in different ways. It gives rise to carbon dioxide and methane emissions that propel the greenhouse effect and it contributes to the leakage of nitrogen and phosphorus that increases the over-fertilisation of lakes and the sea, to name just a few negative effects. If the food is thrown away, this environmental impact has occurred quite unnecessarily.

1.1.2 What do you know so far about household food waste?

A study³ carried out by Avfall Sverige shows that an average Swedish single family household gives rise to approx. 4.8 kg food waste a week. This turns into approx. 100 kg per person per year, but we do not know how large a share of this is unnecessary food waste. As far as we know, no such study has been implemented in Sweden.

In the UK on the other hand, *The food we waste*⁴ report was presented as late as 2008. The report is a result of a comprehensive study of the food waste from approx. 2 700 British households. The study focuses on the unnecessary food waste but also discusses the attitudes of individuals to the fact that food is thrown away unnecessarily. It also highlights the negative environmental effects that are linked to the unnecessary food waste. The British study shows that 61 per cent of the food that is thrown away is unnecessary food waste.

Collected food waste

However we turn the matter over in our minds, we always end up discarding food. As things stand, it is better if food waste is composted or decayed so it will at least be used in some way or other. Details from Avfall Sverige show that the municipalities currently separately collect and process down approx. 20 per cent of all food waste. This includes catering kitchens, restaurants and households. In Stockholm, the figure is 5.5 per cent. The largest share of the food waste collected in Sweden goes for composting, even though the share of decaying for

³ Trends and variations in the composition of household waste, 2005:05. Avfall Sverige.

⁴ The food we waste, 2008, WRAP, www.wrap.org.uk

biogas is increasing. Swedish Parliament's subsidiary goal for 2010 is for 35 per cent of food waste to be recovered through biological treatment.

Food waste from the Coop's stores

Coop Sverige's total food waste is estimated at 11 000 tonnes per year. This figure is from 1995 but, at a guess, the quantities are approximately the same today, maybe slightly higher since the stores now handle more fresh products than before. What happens with food waste depends to some extent on the location of the store in Sweden. Sometimes it is dealt with and turned into soil improvers and biogas. In places where no provisions are made, food waste has to be combusted.

What has the Stockholm Consumer Cooperative Society done so far?

During the summer of 2008, we applied the British *The food we waste* study to Swedish circumstances. In doing so, we applied the British figures to Swedish food consumption and took into account Swedish food habits. The *Climate footprint from of household food waste, Aug. 2008*⁵ report describes the way things could seem if the share of unnecessary food waste was just as great in Sweden as it is in the UK. If it were, this would mean that every Swedish person discarded approx. 100 kg food waste unnecessarily every year.

This would lead to estimated total emissions of approx. 1.9 million tonnes carbon dioxide equivalents per year, corresponding to the emissions of 700 000 cars in one year. We would like to emphasise that our figure of 100 kg unnecessary food waste per year and person is based on rough estimates. In this context, we would like to highlight Avfall Sverige's study⁶, which leads to the conclusion that every Swedish person gives rise to approx. 100 kg total food waste every year. The difference between Avfall Sverige's and our study is that their hundred kilos includes both unnecessary and unavoidable food waste. There is a big difference and we would like people to bear this in mind if using our figure.

In 2008, we produced a folder, "*Do not discard your food*", with associated fridge magnet. The folder contains information on the shelf life of various foods and how they should be stored. There are also individual tips on how easy it is to reduce your food waste by avoiding impulse buys and using leftovers in your lunchbox, for example.

We have also administered the "*Tricks for leftovers*" competition with the objective of collecting the members' own tips and recipes for how to reduce food waste. The collection will be available on our website. We also participated in the Swedish Environmental Protection Agency's *Losses in the food chain* workshop that was arranged in December 2008. We are also arranging a seminar, *Why do we discard so much food?*, for members, teachers and other interested parties. Our seminar will take place at Cirkus in Stockholm in connection with the release of this report, i.e. on 31 March 2009.

We also support an application for a research grant for an in-depth study on food waste from Swedish households, championed by SIWI⁷ among others. The application was submitted to Riksbanken's anniversary fund in February 2009.

⁵ Climate footprint from household food waste, Aug. 2008, SIK, www.konsumentforeningenstockholm.se

⁶ Trends and variations in the composition of household waste, 2005:05. Avfall Sverige.

⁷ Stockholm International Water Institute.

The existing knowledge

Like many other players who work with food waste issues, we have ascertained that there is a considerable lack of knowledge where food loss in Sweden is concerned. This report has been produced to increase the existing knowledge in some regards.

1.2 Objective

The purpose of the three studies implemented by KfS within the framework of this report is to collect knowledge on...

- ...how much household food waste is thrown away unnecessarily,
- ...the attitude of each individual to best before dates and food waste.

The knowledge will be used to endeavour to reduce unnecessary household food waste in various ways. The studies may also be seen as small preliminary studies for the research that we hope will take place into the unnecessary food waste in Sweden, and what can be done about it.

1.3 Procedure

KfS has had three different studies carried out on the subject of food waste: a composition analysis in which household waste from 72 households was sorted and analysed, an attitude survey where approximately 1 200 people in Sweden responded via a web survey to questions on best before dates and food waste, plus eleven interviews with consumers in food stores on the same subject.

2 COMPOSITION ANALYSIS

2.1 Introduction

At the request of KfS, Miljö- och projekteringsbyrån i Mälardalen AB carried out a composition analysis of household waste in a residential area in Bromma outside Stockholm. The purpose of the study was to obtain an example of how large a share of the households' food waste was unnecessary.

2.2 Method

2.2.1 Catchment area

The composition analysis was carried out in accordance with a standardised method⁸ produced by Avfall Sverige. The residential area of Bromma was selected in consultation with the City of Stockholm and the contractor that collects the waste. The area was deemed not to be extreme in any respect and to consist of a fairly homogenous group of people disposing of waste (mainly single family households). The area was also selected because it has no separate food waste collection. The catchment area consists of approx. 80 per cent single family houses, 10 per cent terraced houses, 5 per cent apartments and 5 per cent businesses. The percentage distribution is based on the number of households, a total of 72. The businesses are "small handicraft" businesses. The area has a mixed population with an emphasis on households with children who are more than 10 years old and with an above-average annual income.

2.2.2 Sample collection

The waste that was collected had been generated over the space of one week. The waste consisted of 51 x 190-litre residential containers, 12 x 240-litre bin bags and 4 x 140-litre bin bags. The waste was collected using a 6 m³ open flatbed truck that accommodated approx. 600 kg. The collection took place on 9 December 2008. The waste was collected uncompressed in two rounds and the parent sample thereby consisted of approx. 1 200 kg. According to key ratios⁹ from Avfall Sverige concerning volume weights, this corresponded to twelve m³ mixed waste in containers of approx. 1 200 kg.

⁸ Manual for composition analysis of household waste in containers and bin liners, RVF Utveckling 2005:19.

⁹ Volume weights for waste, Report 2000:12, Avfall Sverige.

2.2.3 Sample division

The waste was tipped onto laid out tarpaulins to reduce the risk of contaminating gravel. The waste was then mixed up using a wheel loader and was then laid out in rows. Using a random method, in this case step-by-step, four sub-samples were selected using shovels and brooms since the wheel loader's bucket was too wide to be used at this stage. The weight of the sub-samples¹⁰ was approx. 100 kg waste, i.e. approx. 400 kg in total.



Figure 1: The truck tips the waste onto a tarpaulin.



Figure 2: The waste is sorted.

2.2.4 Composition analysis

The composition analysis took place on the same day as the waste was collected. The analysis concerned the loss of food. The fractions that were sorted out were *unnecessary food waste* and *unavoidable food waste*.

Unnecessary food waste consists of food that could have been eaten (food on plates) and food that can be eaten but that some people choose not to eat, e.g. bread crusts, meat rind, some fruit and vegetable skins (e.g. apple peel).

Unavoidable food waste is characterised by food that cannot be eaten, e.g. tea bags, bone, some people choose not to eat, e.g. bread crusts, meat rind, some fruit and vegetable skins (e.g. avocado skin, banana skin and potato skin).

The concepts are not accepted ones but simply ones that have been selected for this particular project.

¹⁰ The sub-samples are shown in Appendix 1: Composition analysis – Compilation of the sub-samples.

When waste that was composed of both categories (*unnecessary* and *unavoidable* food waste) was encountered, the waste was sorted on the basis of the category that had the highest weight proportion.

Other biowaste such as potted plants, root systems from salad leaves growing in a pot and kitchen paper was sorted in the *other waste* fraction along with waste that was not food waste.

2.3 Results of the composition analysis

The composition analysis shows that the households studied threw away 5.6 kg food waste (per household) in week 49 of 2008. This is on a level with Avfall Sverige's key ratios for the quantity of food waste during one week in an average single family household (4.8 kg)¹¹. The share of unnecessary food waste in the households studied was 57 per cent.

Note that liquid food waste leftovers such as milk products, soup and creams are not included since these are normally washed down in the dishwasher. The same applies to liquid food waste that sticks to the inside of its packaging. Fine particles of food waste such as coffee grounds were separated out as far as possible and added to the food waste fractions as far as could be considered to be practically possible.

On the basis of a visual assessment during the analysis, packaged bread, pasta and rice constituted a dominant share of the *unnecessary food waste* fraction. Meat put in a very rare appearance.

¹¹ Trends and variations in the composition of household waste, 2005:05. Avfall Sverige.

3 ATTITUDE SURVEY – THE FOOD WE DISCARD

3.1 Introduction

At the request of KfS, market research company YouGov has carried out an attitude survey in the form of online interviews. The aim of the survey is to find out the attitude of the individual consumer to best before dates and food waste.

3.2 Method

3.2.1 Online interviews

The survey was conducted using online interviews, i.e. questionnaires that were sent out by email. The respondents had to answer 12 questions¹² on best before labelling and food waste plus a few further questions on the size of the household, income, etc. The questions on best before labelling and food waste were produced by KfS in cooperation with Carl Yngfalk, researcher at the University of Stockholm. The survey was conducted in February 2009.

3.2.2 Selection

The selection was made from YouGov's Internet panel which consists of a total of 42 000 pre-recruited men and women between the ages of 15 and 74. The selection in this survey is representative with regard to gender, age (18-74) and region, except for the 65-74 age group, which is not nationally representative. The net selection was made up of 1 196 people.

Age	Share
18-29	21%
30-49	39%
50-64	28%
65-74	12%

3.3 Result of the attitude survey

Below follow six of the total twelve questions that were asked about best before labelling and food waste. All questions and answers can be seen in Appendix 2¹³.

¹² All questions can be found in Appendix 2: Attitude survey – the food we throw away.

¹³ All questions can be found in Appendix 2: Attitude survey – the food we throw away.

3.3.1 The best before date leads to food being thrown away unnecessarily

One third (33%) completely agree that a best before date that has passed on a food is often a reason why they discard food. Another one quarter (24%) (sic) partly agree. Women agree to a greater extent than men. The younger half of the respondents (18-49) is also more inclined to agree with this. Four out of ten people (37%) completely agree that foods that have been forgotten in the fridge are often a reason as to why they discard food. Even here, it is primarily women who agree. We imagine that forgotten food can be cooked and uncooked food.

Approx. one in four people (26%) completely disagree that they would discard leftovers after a meal. Among those in households where the total annual income is SEK 250 000 or less, 32 per cent say that they completely disagree with this. The corresponding figure among those in households with an annual income of more than SEK 700 000 is just 17 per cent.

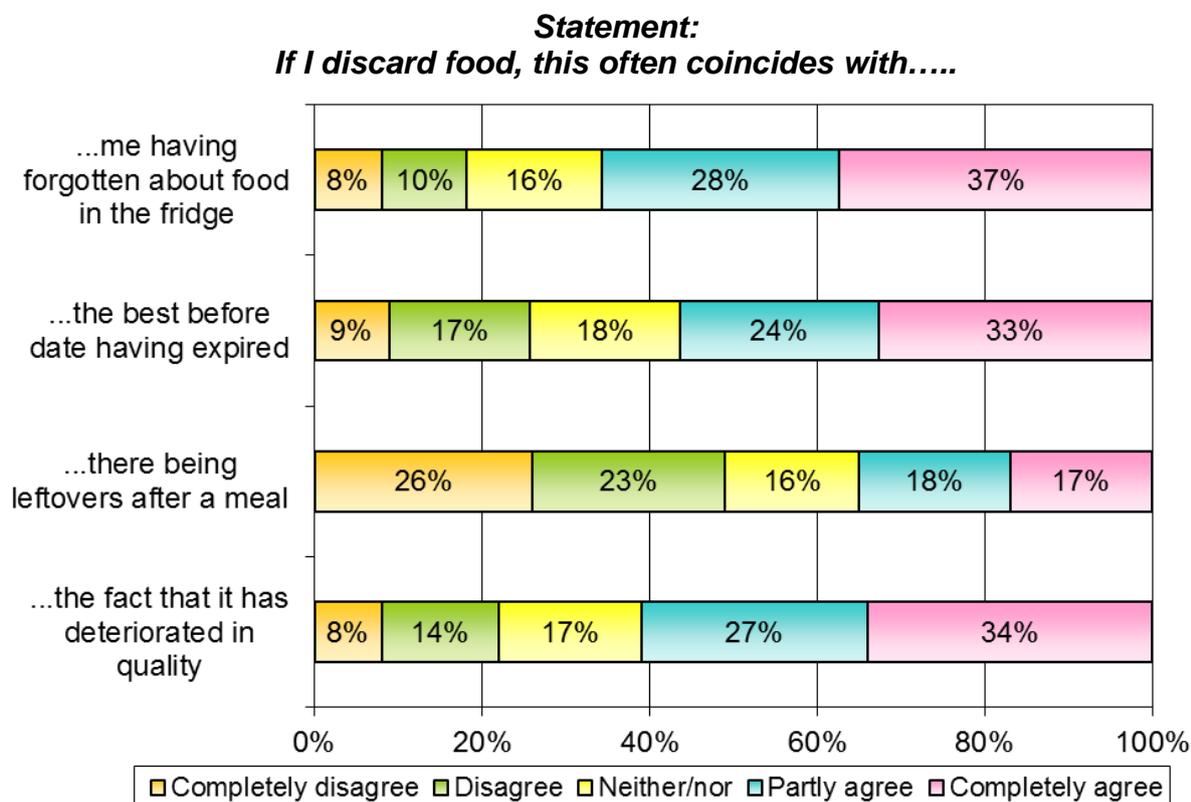


Diagram 1: Response to the statement: *If I discard food, this often coincides with...*

3.3.2 Expired date – one in two people think this does not prevent you from eating

Almost exactly half (29+22%) say that they are not careful about avoiding food on which the best before date has expired, but there are those who are of the opposite opinion. One in four (10+16%) is careful not to eat something on which the best before date has expired, and young people are even more careful than older people where this is concerned. 35 per cent of those between the ages of 18 and 29 say that they completely or partly agree with the statement below, which is more than in other age groups.

Statement:

I am careful not to eat anything on which the best before date has expired.

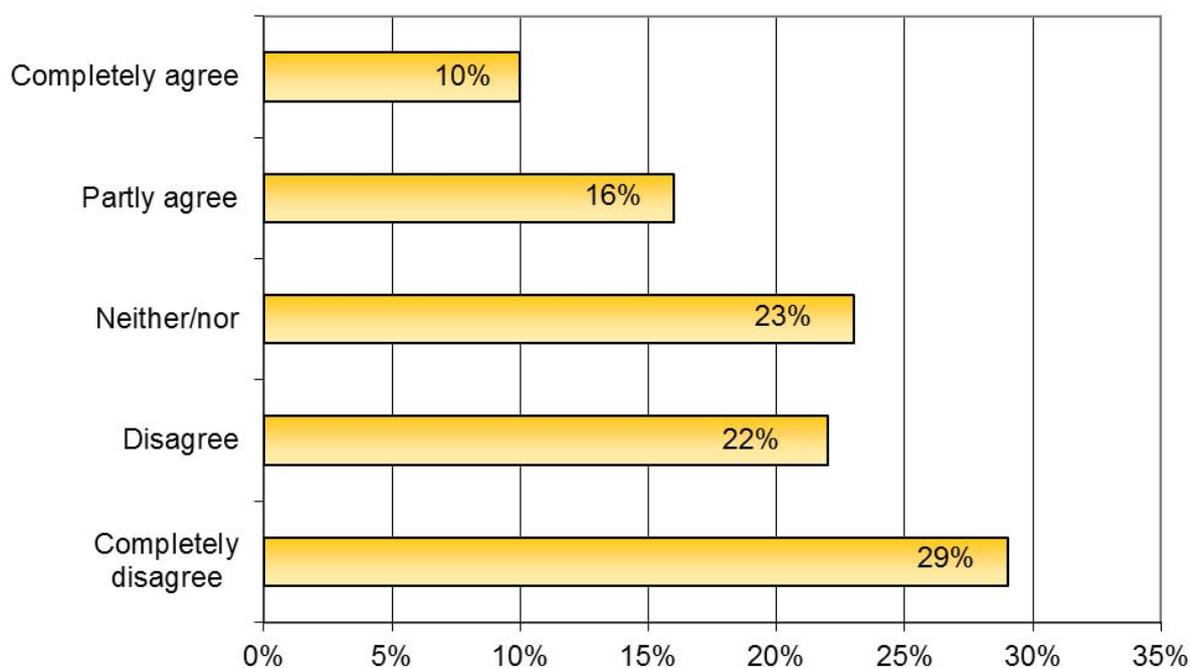


Diagram 2: Response to the statement: *I am careful not to eat anything on which the best before date has expired.*

3.3.3 The fear of becoming ill guides decision

We asked the approx. 300 people who completely or partly agreed with the statement “I am careful not to eat anything on which the best before date has expired” in the previous question to justify why they are careful about this. A common response is that they are afraid of becoming ill. The following quote is a small selection.

Please justify why you are careful not to eat anything on which the best before date has expired

- *“Because the product is old and it is unhealthy to eat it.”*
- *“Apart from the fact that it may not smell good, there is a risk of becoming ill and having to stay off work, and that costs at least as much as throwing away a bit of food now and then. However, I do usually plan things so that the food does not become old and don’t often do a big shop.”*
- *“You simply don’t do that.”*
- *“It may be rancid and I’m afraid of having food poisoning.”*
- *“It feels as though the producer of the goods is no longer guaranteeing that I can eat the product without the risk of becoming ill.”*
- *“Because the best before date has expired. It may taste bad and be dangerous.”*
- *“I believe that if the best before date has passed, the food is unsuitable. Otherwise we wouldn’t need to have any best before date.”*
- *“I’d like more information on whether you can eat or drink a product after the best before date. I sometimes drink milk the day after the date has expired and nothing bad has happened, but only in the winter.”*
- *“Because the food is usually bad before a best before date.”*

3.3.4 Four out of ten rely on their nose

Almost four out of ten (39%) completely agree that they smell or taste the food if the date has expired. Women are more inclined to do so than men. 43 per cent of them completely agree, while only 34 per cent of the men do this.

Younger people (18-29) are less inclined to use their sense of smell and taste to judge the quality of the food. Of these, a full 27 per cent (18+9) say that they do not or do not at all agree with the statement below, which is more than in other age groups (30-74).

Statement:

If the best before date has expired, I always smell or taste to check whether the product is still any good

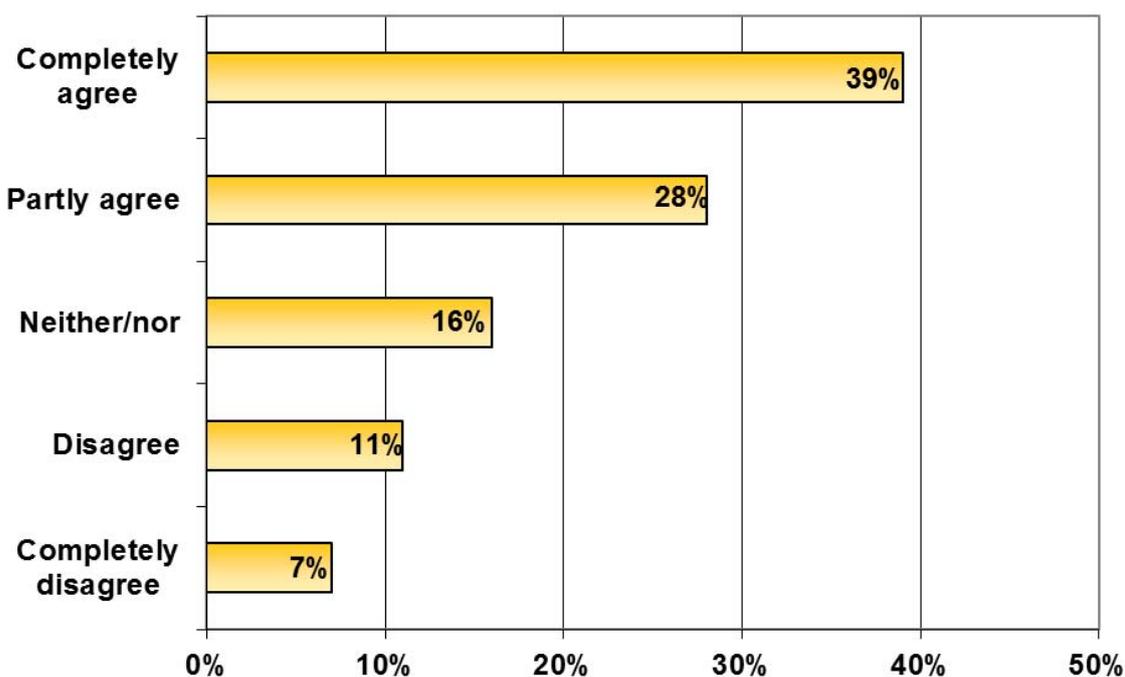


Diagram 3: Response to the statement: *If the best before date has expired, I always smell or taste to check whether the product is still any good.*

3.3.5 Bread and vegetables end up in the rubbish bag

Bread and baked products, fresh vegetables and milk products are the ones that usually end up in the rubbish bag – of the most common foods. Households with an income of more than SEK 700 000 discard more (51%) vegetables than households with lower incomes.

Where pasta, potatoes and rice are concerned, there is also an income-related difference. Households that earn SEK 250 000 or less do not discard as much (17%) pasta, potatoes and rice as others.

Have you thrown away any of the following foods over the past week?

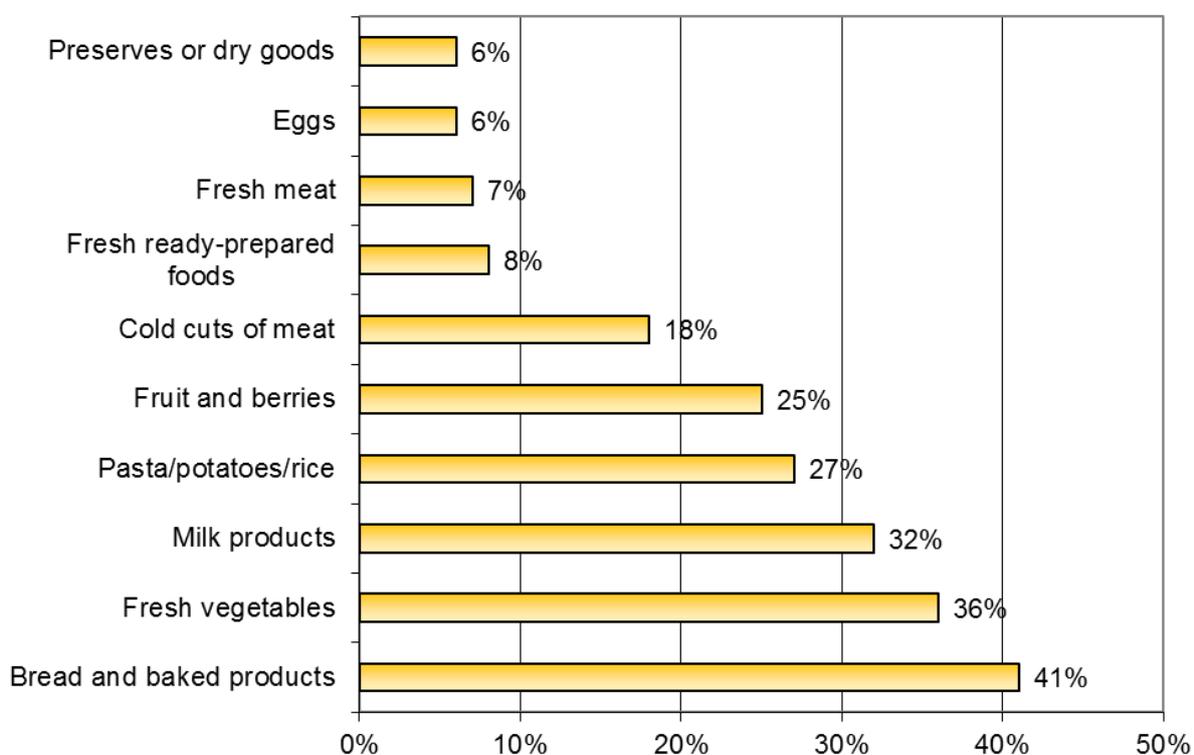


Diagram 4: Have you thrown away any of the following foods over the past week?

3.3.6 “Keeps until at least” - a better label?

Six out of ten people think that “Keeps until at least” would be a better label than “Best before”. There is not a huge great difference between the ages but the younger half of the respondents (18-49) tends to think that “keeps until at least” would be better while the other half (50-74) wants to keep “Best before” to a slightly greater extent than others want to keep it.

A food product can be completely edible even if the best before date has passed. Which of the following labels on the packaging do you think best conveys this?

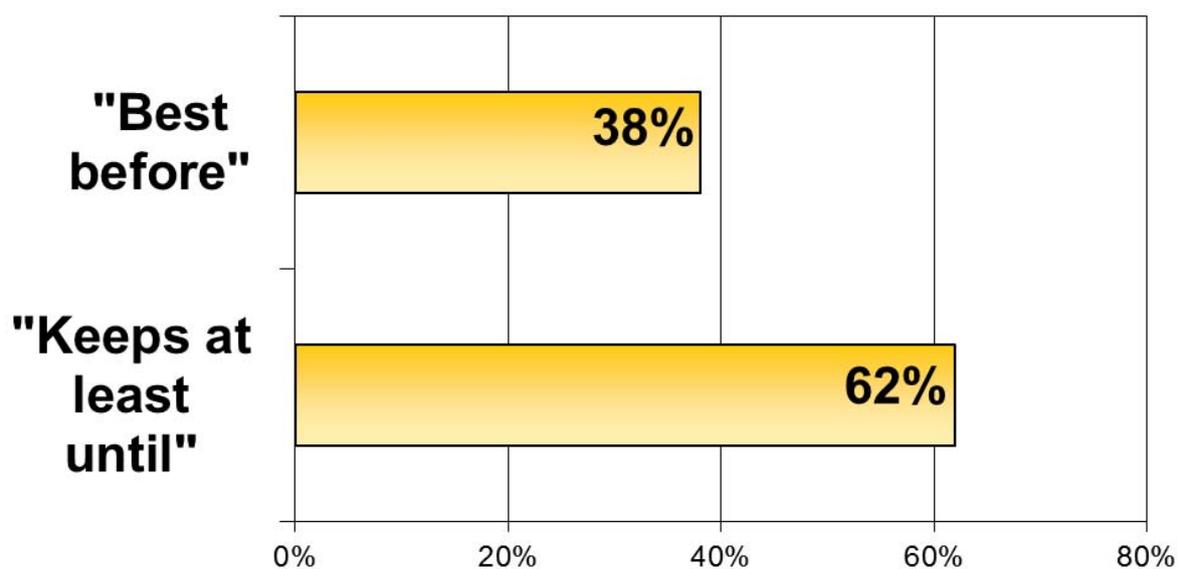


Diagram 5: Response to the question: A food product can be completely edible even if the best before date has passed. Which of the following labels on the packaging do you think best conveys this?

4 CONSUMER INTERVIEWS - VOTES ON LEFTOVER FOOD

4.1 Introduction

At the request of KfS, freelance journalist Anna Förster has held interviews with consumers in food stores. The interviews concerned attitudes to date labels and discarded food. The aim of the interviews was to find out the attitude of some individual consumers to best before dates and food waste.

4.2 Method

4.2.1 The interviews

The interviews were held on 28 February at Coop Forum in Bromma and Coop Konsum in Hammarby Sjöstad. When selecting respondents, the endeavour was to obtain a variation with regard to age, gender, family size and ethnic origin. All were informed that the interview was being held at the request of KfS and that the result would be presented in a report and at a seminar. An interview was held with the respondents on the basis of 16 questions¹⁴ and every interview lasted approx. 2-5 minutes. A total of 20 people were questioned. Six of them refused to answer and three of them responded briefly. The result therefore consists of eleven interviews.

4.3 Results of the interviews

Most people look at the date label on the packaging in the store and choose as long a date as possible. Calculating the correct quantity of food appears to be a problem for many, as does using the leftovers. Lots of food ends up in the refuse.



Maud and Peter Lindh 2-person household

“I always look at the best before date,” says Maud.

Peter also emphatically agrees:

“Yes, she really does - always!

“As far as we’re concerned, it’s a matter of quality when we shop,” says Maud, “but we do unfortunately discard quite a lot of food at home. We store too much food out of habit

¹⁴ See the questions in Appendix no. 3: Interviews – Votes on leftover food.

almost for six people although there are only two of us. Cooked food leftovers usually end up being used for lunch, but we often discard the last remaining bit of cheese when we've bought a new cheese, and the small amount left in the liver pâté jar. And, if we eat pizza, we don't save any leftovers there might be. Mmm, we probably actually end up throwing away quite a lot ..."

Maj-Britt Hansson. 4-person household

"I look at the date out of long-standing habit and usually choose the one with a long shelf life.

"Yes, I know the difference between a best before date and a use by date, but it's most important for me to look at a date in the store. when I'm at home, it matters less if for example meat has been lying around for a day or two after the date. I cook it anyway if it smells and looks OK. It's the same with milk. I very rarely discard milk. It can keep for quite a long time after the date on the package. My son's the one who drinks the most milk at home and he doesn't care about the date and drinks it if it tastes OK.

"I always do my weekly shop one day a week because I think shopping is boring and I often buy multipacks and several of the same if this makes it cheaper. It's good to have it at home.

"We certainly do discard some food, primarily vegetables, but I try and remember not to do that. My mother was very good at using leftovers and I'd like to think I've learned something from her. For example, I often freeze something if it's not needed."



Alexandra and Neo Skogström. 3-person household

"I'm not actually that good at looking at dates. Maybe milk and chicken - and if I'm going to eat something that same evening, I simply don't worry about it. I've never had the misfortune to buy something bad.

"Best before date and use by date? No, I had no idea that there was any difference.

"We shop regularly, sometimes every day, and we rarely buy multipacks. In principle, we buy what we're going to eat that evening.

"Unfortunately, we do discard a lot of food. Not if it looks fresh, but it's not usually left in the fridge for many days. I also much prefer to buy new rather than use old. I do sometimes take leftover food with me to work in my lunch box, but not really that often."

Gunilla Ringquist. 2-person household

“I always look at best before dates - I do pay the same price for the product whether it's completely fresh or less fresh. I want to have something that's at its freshest and in my opinion, it's primarily a matter of getting quality for money. I usually pick and choose from the products to find the best date. I always take bread that's the furthest back or the lowest in the pile on the shelf since the store places the oldest at the front. If I'm going to eat a piece of meat on the same day, I still choose the one that's stamped with the longest date.



However, I certainly do buy short-dated products purely because the price has been really reduced.

“I go shopping fairly often and like to buy large packages. We still discard much less now than we did before. That's because we bought a microwave a few months ago, which is a revolution for my husband and I. We now use nearly all of our leftovers whereas before, we threw away an enormous amount. I always used to cook too much that was never all needed. There were leftovers that were in and out of the fridge and finally put in the refuse bin. If we used to throw out 50 per cent, we might not even throw out 10 per cent now. I think differently since we got the microwave, much more economically, and it is actually really nice to see how we're going to use the food at the same time as making something tasty and maybe slightly different.”

Ingemar. Single person household

“I probably buy a bit too often - it must be every other day.

“Use by date? Yes, I usually look, particularly on milk, although I care less about the quality of the food. I trust the shops to sell usable food.

“I don't discard much food. I've tried to adapt the food to a single person since I found myself alone, but it is hard sometimes. If something's left over, I usually eat up the leftovers the day after.

“I may discard milk sometimes if it's been around for too long, although it can all last for a week past the time. It usually still taste good.”





Andreas and Tindra. 4-person household

“We shop in principle just once a week. We have food delivered to us at home by a company called Matkomfort,” says Andreas.

“You can choose your menu for four days and the food is delivered to your home for as many days as you’ve ordered for. The quantity of food actually functions really well for us. You can prepare it yourself but it is practical not to need to think about that too much, and it’s usually really nice. We used to shop in the same way from Hemfrid, but Matkomfort has chopped, sliced and made things slightly simpler so cooking is a bit quicker. The food is delivered to our home on Sunday and is for Monday to Thursday. It’s produced locally and ecologically and that’s important to us.

“When we shop in stores, we usually get supplements that we think are more child-friendly, and fruit plus food for Friday and the weekend.

“I generally look at the date when I shop, but not that carefully if we’re going to eat the food that same evening. For me, the date label means that I can choose safe and quality food.

“Yes, we probably do discard a few leftovers, but I don’t think it’s that much.”

Slavica Radojićic. 4-person household

“I’m usually the one who does our shopping and it’s usually every day because I work here.

“I sometimes check the date carefully, sometimes not. I check milk and bread in any case. If the price of a product with a short date has been lowered, I buy it anyway.

“We not discard much food at home. It’s obviously a question of being economical. We may sometimes discard vegetables, but never meat. Leftovers often end up in our lunch box and I also make sure I freeze food if it’s not needed.

“I’m less finicky about mould. I make jam myself and that can go a bit mouldy sometimes. If the tomato purée has mould on it I remove it, and the same with the cheese.

“I rely heavily on taste and smell to judge whether the food is good and can be prepared. I’ve never suffered with food poisoning from bad food at home.”





**Madeleine and Gunnar Sidén.
2-person household**

“In my opinion, it’s extremely important to look at the date label. If the shelf life is long, I’m very pleased,” says Madeleine. “I look at everything.”

“And I don’t actually care at all,” says Gunnar.

“I pick and choose in cold cabinets and from among bread and always take the product with the longest shelf life,” says Madeleine. “If we’re going to eat the food that same evening, I still

always choose food with the longest shelf life. I never buy short-dated and lower priced food. I daren’t.

“We discard relatively little food,” says Madeleine. “When the children lived at home, most of it was used and now we’re the only ones left at home, we’ve adapted ourselves to this. There’s rarely a lot left.

“However, if we happen to have food on which the date has expired, I discard it right away,” says Madeleine. “Even milk. It doesn’t matter if it smells and tastes OK. I don’t want old food.”

“Although I sometimes do manage to drink the milk first. I’m not as fastidious about this sort of thing,” says Gunnar.

Anna Norberg. 2-person household

“No, I don’t particularly look at the dates on packages and if we’re going to eat something on the same day, there’s no need to. Short-dated food is OK. I don’t think it makes you ill as long as it tastes good...

“We mainly shop spontaneously and it can be every day. I try to buy small packs but large ones are much more common so there is definitely some left over, and we probably discard quite a lot of leftovers. We don’t usually make use of them.

“Milk can end up being one day old, but if it tastes the slightest bit strange, out it goes. I’m also careful with eggs. I once ate an egg that was old and it was disgusting, so I do carefully check the date on those anyway.

“Dry bread is a real shame and I discard it all the time. Maybe far too often, actually.”





Kristina Andersson and Tomas Lidström

2-person household

“I don’t like not checking the date,” says Kristina. “I always try to look at the packaging, at least for meat and fish and milk and soured milk of course. It’s uneconomical to buy food that you have to discard at home because it’s become too old too soon. I only buy food with as long a shelf life as possible and buy stuff with a

short date only if it’s really reduced, and then it’s the very first thing we eat of course.

“We discard very little,” says Kristina. “I’m very good at using leftovers. I think economically, but about the environment? No. We’re good at using taste and smell to judge the food, but the date is still the most important thing – in the shops in any case.

“We’re probably a bit negligent and usually shop twice a week. I used to be good and did a big shop just once,” says Kristina.

“I’ve had bad experience from buying short-dated food,” says Tomas. “Last summer, for example, we bought meat that was short-dated to grill, but it turned out to be bad so we had to throw it away. We had the same thing with smoked prawns the other week. They were at a reduced price but we bought them over the counter so there was no date label. We also had to discard those. It always feels irritating to throw away food so we make sure we check date labels.”

Mikael Pertot, 2-person household (1 adult and 1 son)

“I usually check the date on dairy products and choose those with the longest shelf life. I discard very little food at home. It’s used fairly quickly as leftovers. I rarely need to make new dishes from leftovers. If the date on the packaging has expired, it doesn’t particularly worry me. I decide for myself whether it seems OK to eat the food. If the milk smells and tastes OK once it’s passed its date by eight days, I still drink it.

“I think quite economically when I’m cooking food. For example, I do chicken with vegetables in a terrine, leftover vegetables and edible roots are very nice mixed up with the bouillon for soup the next day. Fried dried meat with onions and potatoes, known as “pytt”, is also very nice as food for the next day - or Thai-style fried rice.



5 CONCLUSIONS – AND WHERE DO WE GO FROM HERE?

5.1 Conclusions

The basis for the composition analysis is small and the results must be processed with this in mind. However, the comprehensive British study¹⁵ from 2008 to which we refer in some places in the report shows that 61 per cent of the British household food waste is unnecessary. We therefore believe that our figure of 57 per cent unnecessary food waste is reasonable. We are therefore fairly certain that major shares of the Swedish household food waste consists of food that could have been eaten had it been handled correctly.

The results of the attitude survey provide a few explanations as to why food is thrown away unnecessarily. There are certainly many people who say that they do not discard food unnecessarily and that they use their sense of taste and smell to judge the quality of the food and that the best before date is not a reason why they discard food. However, there are still many people who are of the opposite opinion. They don't want to eat food whose date has expired and they do not use their sense of taste and smell to judge whether the food can be eaten when the date has expired. The respondents' own comments bear witness to the fact that fear of becoming ill is a common reason for this.

Someone who discards food because the best before date has expired discards food unnecessarily. If the food has been stored correctly and also smells and tastes good, it is usually OK to eat, even if the best before date has expired. In order to deal with this behaviour, better planning for purchases and greater knowledge of the Swedish date labels are required. KfS thinks that "best before" is a label that is difficult to interpret and therefore proposes that it be changed to "keeps until at least". This is a perception that KfS shares with 62 per cent of those who participated in the attitude survey. Mainly the younger half (18-49) of the respondents have a positive attitude towards a new label.

Poor knowledge of labels and shelf life lead to food being thrown away unnecessarily. Another important reason may be that many people simply can't afford to. That is said with all due respect since many Swedish households do have to watch their finances and therefore never discard food unnecessarily. Discarding food is an embedded conduct that is accepted in the system in which we live. Greater awareness and understanding of the impacts that the discarded food has on the environment, for example, are needed to deal with this behaviour.

5.2 Proposed measures

1) KfS believes that the information is needed at various levels in society to...

- ...increase awareness and understanding of the impact that the discarded food has on the environment and the global food supply,
- ... increase the knowledge of the shelf life of food, the meaning of the date label, storage of food, etc. (focus on young people),

¹⁵ The food we waste, 2008, WRAP, www.wrap.org.uk

- ... increase the knowledge of how best to take care of buying food for a household, use leftover food, plan weekly menus, etc.

2) KfS believes also that the current “best before” date label needs to be replaced by “keeps until at least”. KfS believes that the concept “keeps until at least” better describes the fact that the food can usually be eaten even after the “date” has passed, provided it has been stored correctly and tastes and smells good.

5.3 Continued studies

More research is needed to ascertain how much food is thrown away unnecessarily, and this applies not only to households but also throughout the Swedish food chain. As said, the scope of our composition analysis is limited. We therefore recommend that one or more major players use our composition analysis as a preliminary study for a more comprehensive study of household food waste alone. Such a study should definitely be followed up over time so that the measures chosen for implementation can be assessed.

Appendix 1

Report from a slop bucket

Composition analysis – Composition of the sub-samples

March 2009

Stockholm Consumer Cooperative Society

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COMPOSITION ANALYSIS – COMPOSITION OF THE SUB-SAMPLES

The composition analysis was carried out by Miljö- och projekteringsbyrån i Mälardalen AB. This Appendix shows all sub-samples of the composition analysis.

Parent sample [kg]	1 200
Number of households [units]	72
Number of business operators (bo) [units]	4
Waste per hh, excl. bo [kg per hh]	16.7

<u>Sub-sample 1</u>	[kg]	[kg per hh]	[%]
Sub-sample	97		
Food waste	34.9	6.0	36%
Unavoidable loss	13.6	2.3	14%
Unnecessary loss	21.3	3.7	22%
Other waste			
Share of unnecessary loss from the food waste			61%

<u>Sub-sample 2</u>			
Sub-sample	126		
Food waste	50.1	6.6	40%
Unavoidable loss	20.4	2.7	16%
Unnecessary loss	29.7	3.9	24%
Share of unnecessary loss from the food waste			59%

<u>Sub-sample 3</u>			
Sub-sample	125		
Food waste	35.5	4.7	28%
Unavoidable loss	18.3	2.4	15%
Unnecessary loss	17.2	2.3	14%
Share of unnecessary loss from the food waste			48%

Sub-sample 4

Sub-sample	130		
Food waste	41.4	5.3	32%
Unavoidable loss	18.1	2.3	14%
Unnecessary loss	23.3	3.0	18%
Share of unnecessary loss from the food waste			56%

Total	[kg]	[kg per hh]	[%]
Sub-sample	478		
Food waste	161.9	5.6	34%
Unavoidable loss	70.4	2.5	15%
Unnecessary loss	91.5	3.2	19%
Share of unnecessary loss from the food waste			57%

Mean			
Sub-sample	119.5		
Food waste	40.5	5.6	34%
Unavoidable loss	17.6	2.5	15%
Unnecessary loss	22.9	3.2	19%
Share of unnecessary loss from the food waste			57%

Median			
Sub-sample	125.5		
Food waste	38.5	5.1	31%
Unavoidable loss	18.2	2.4	15%
Unnecessary loss	22.3	3.0	18%
Share of unnecessary loss from the food waste			58%

Appendix 2

Report from a slop bucket

Attitude survey - the food we discard

March 2009

Stockholm Consumer Cooperative Society

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ATTITUDE SURVEY – THE FOOD WE DISCARD

This Appendix shows all questions and answers in the “The food we discard” attitude survey carried out by the market research company YouGov.

Method

The survey was conducted using online interviews, i.e. questionnaires that were sent out by email. The selection was made from YouGov’s Internet panel which consists of a total of 42 000 pre-recruited men and women between the ages of 15 and 74. The selection in this survey is representative with regard to gender, age (18-74) and region, except for the 65-74 age group, which is not nationally representative. The net selection was made up of 1 196 people. The survey was carried out in February 2009.

Background variables

The material was broken down as follows:

Bakgrundsvariabler	
Kön	
Ålder	<ul style="list-style-type: none"> • 18-29 år • 30-49 år • 50-64 år • 65-74 år
Region	Storstad Övriga Sverige
STHLM vs Riket	Stockholm (Postnummer 10000-19999) Övriga Sverige
Inkomst	Under 250 000 kr (B1 Alt 1) 250 000 - 500 000 (B1 alt 2) 500 000 - 700 000 (B1 alt 3) Över 700 000 (B1 alt 4) Vill ej ange/Vet ej (B1 Alt 5+6)
Utbildning	Grundskola (B2 Alt 1) Studentexamen (B2 Alt 2) Kort eftergymnasial utbildning (<3 år) (B2 alt 3) Universitet (B2 alt 4) Vill ej uppge (B2 alt 5)
Hushållsstorlek	1 person (B3 alt 1) 2 personer (B3 alt 2) 3-5 personer (B3 alt 3-5) Över 5 personer (B3 alt 6) Vill ej uppge (B3 alt 7)

Questions

Q1. Do you sometimes discard food?

Q2. If I discard food, it often coincides with...

Q3. I think I would discard less food if

Q4. To what extent do you agree with the following statement?

Q4B. Does the “Best before date” label convey anything else to you?

Q5. Are you more or less careful about the best before date with regard to the following foods?

Q6. To what extent do you agree with the following statement? I am careful not to eat anything on which the best before date has expired.

Q6b. Please justify why you are careful not to eat anything on which the best before date has expired

Q7. To what extent do you agree with the following statement? If the best before date has expired, I always smell or taste to check whether the product is still any good.

Q8. Have you thrown away any of the following foods over the past week?

Q9. A food product can be completely edible even if the best before date has passed. Which of the following labels on the packaging do you think best conveys this?

Q10. Do you have any other comments on the discarding and labelling of food?

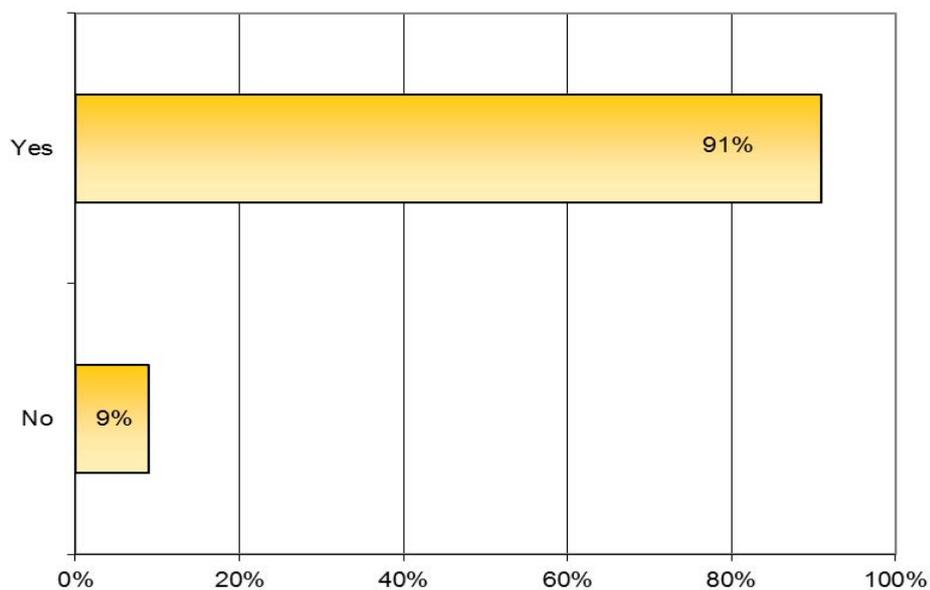
B1. What is your household’s gross annual income (before tax)?

B2. What education have you had?

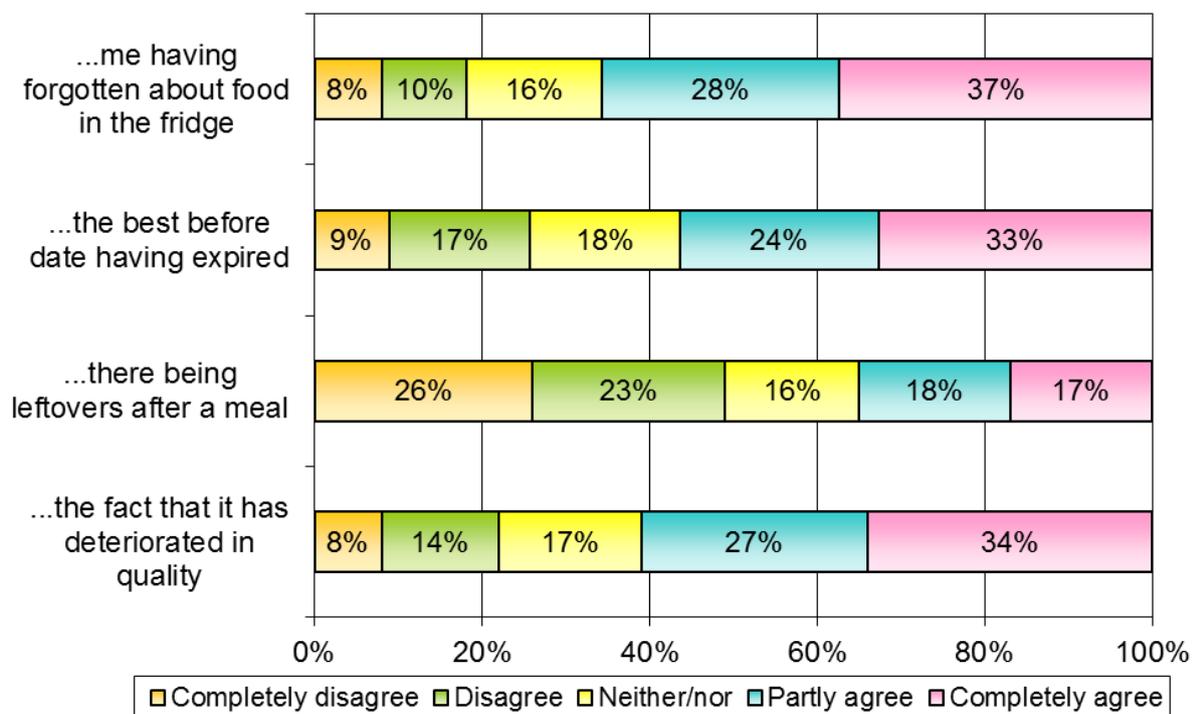
B3. How many people does your household normally consist of (yourself included)?

All questions and answers

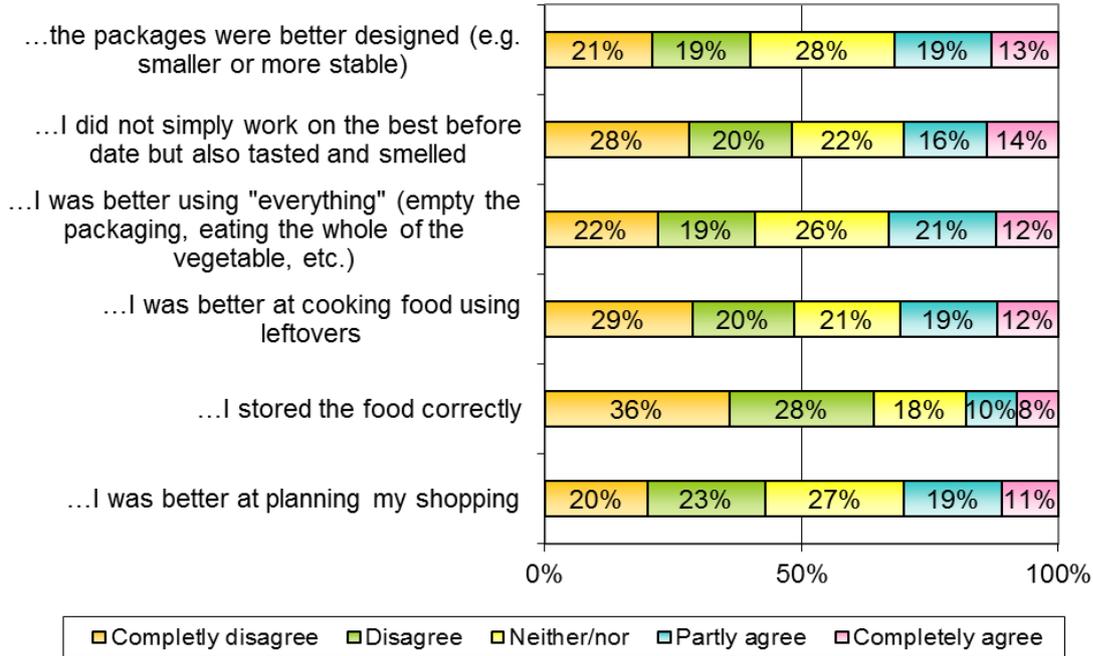
Q1: Do you discard food sometimes?



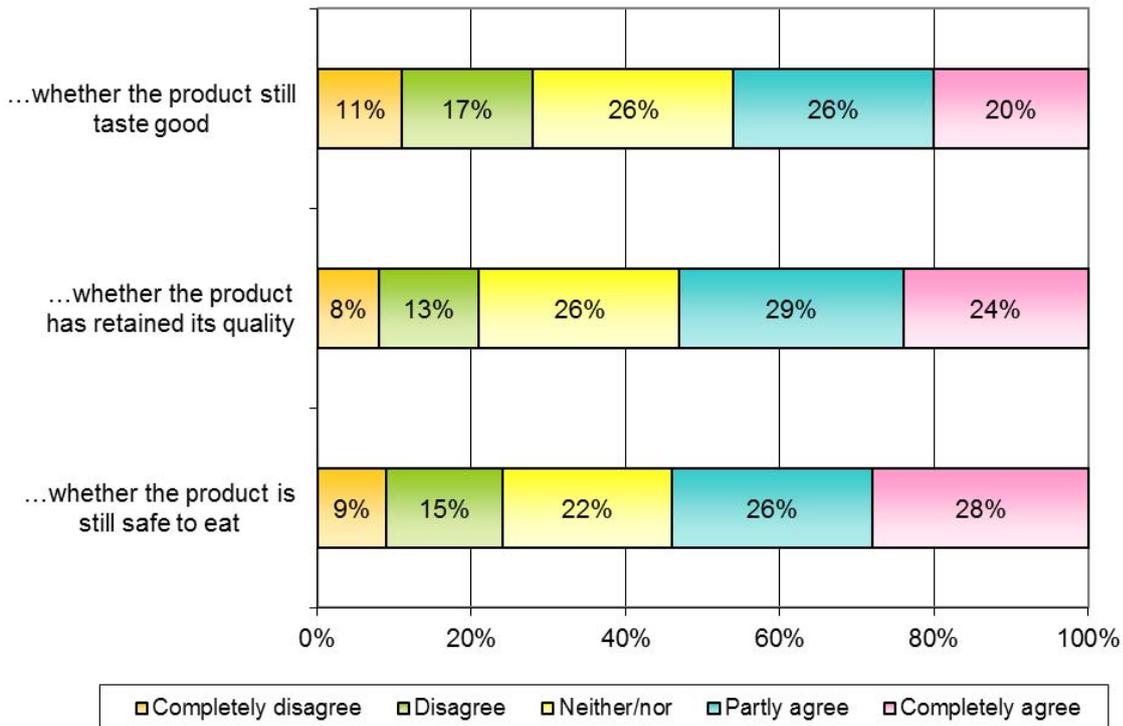
Q2: If I discard food, it often coincides with...



Q3: I think I would discard less food if ...



Q4: To what extent do you agree with the following statement? The "Best before date" label tells me...

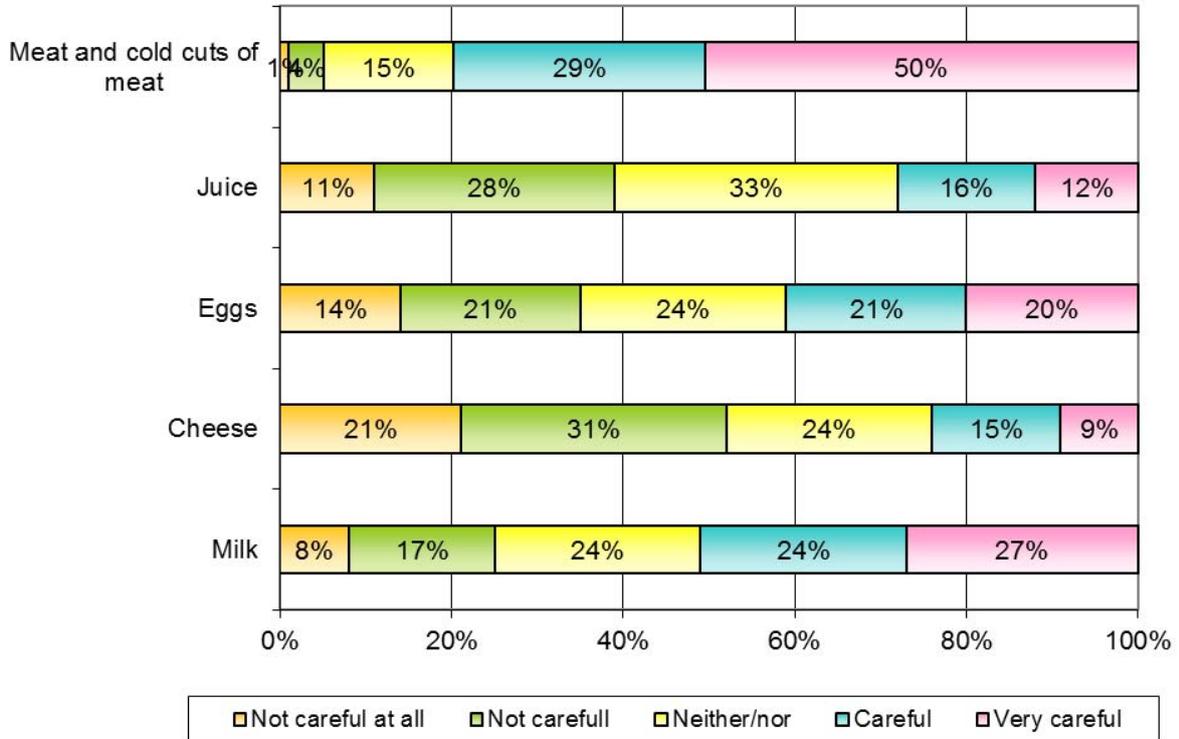


Q4B: Does the “Best before date” label convey anything else to you?

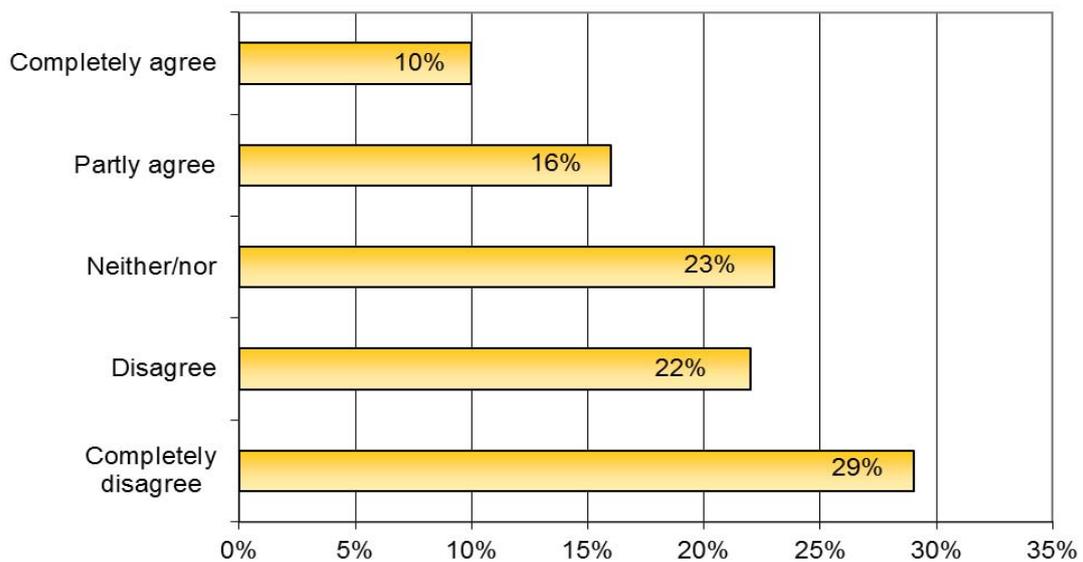
Below follows a small selection of the approx. total of 600 comments made on this question.

- *“That the supplier is guaranteeing the product until the best before date and it is then up to me to decide.”*
- *“The shop must not sell the product at full price after the best before date.”*
- *“That it can be seen as a recommendation and that I can still eat/drink it after the expiry.”*
- *“Not to buy the product if there is a short time left until Best before.”*
- *“That I will not get food poisoning.”*
- *“That the product still has its nutritional values.”*
- *“The best before date should be written in the same way. Difficult to say whether “100109” is 10/1/2009 or 9/1/2010.”*
- *“The extra safety margin set by the producer to avoid complaints and compensation claims.”*
- *“It’s about whether or not I must discard the food.”*
- *“It’s the shop’s message and this may have other interests than my own. Set too short a date so I won’t be suspicious about his handling or too long because he has “manipulated” the product.”*

Q5: Are you more or less careful about the best before date with regard to the following foods?



Q6: To what extent do you agree with the following statement? "I am careful not to eat anything on which the best before date has expired"

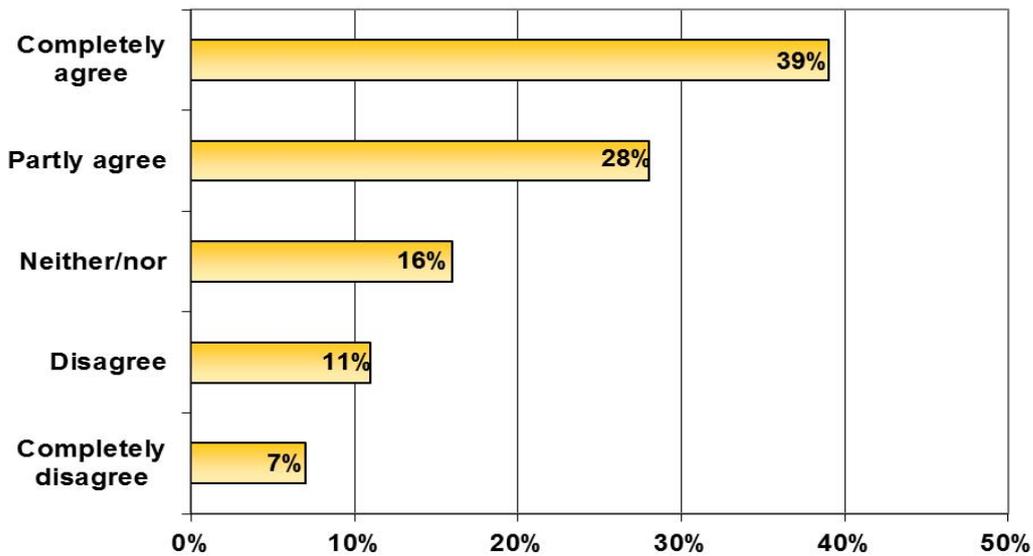


Q6B: Please justify why you are careful not to eat anything on which the best before date has expired

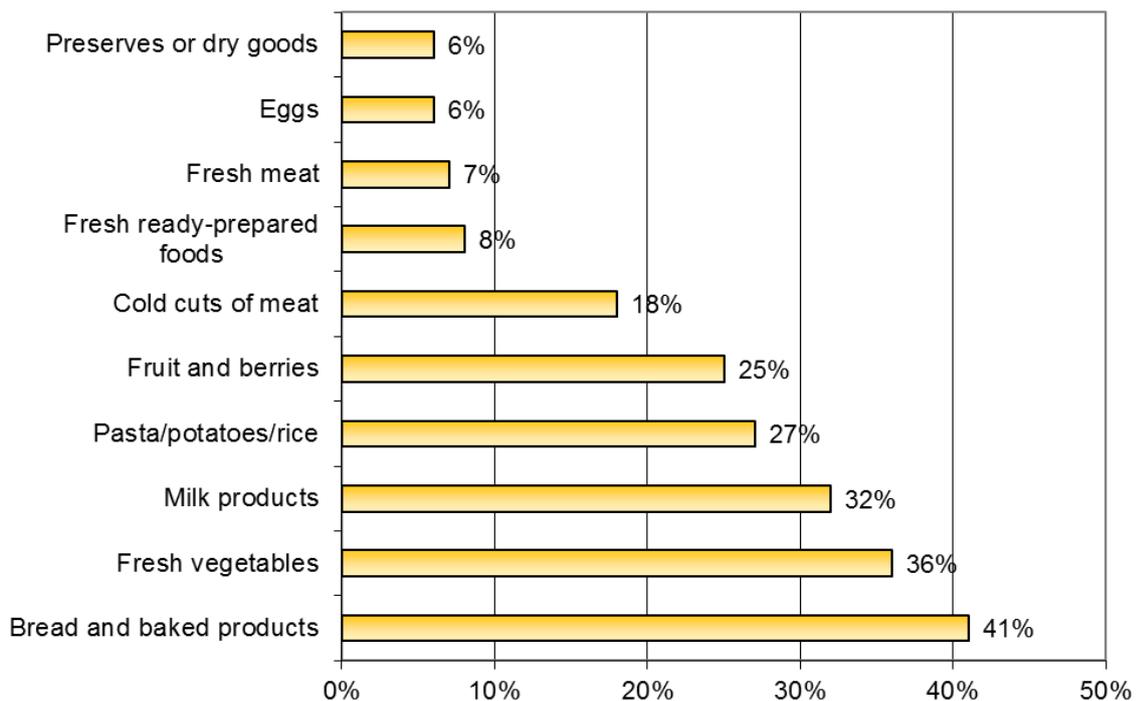
Below follows a small selection of the approx. 300 comments made on this question. Note that this question was answered only by the just over 300 people who partly or fully agree with the statement in question 6.

- *“Because the product is old and it is unhealthy to eat it.”*
- *“Apart from the fact that it may not smell good, there is a risk of becoming ill and having to stay off work, and that costs at least as much as throwing away a bit of food now and then. However, I do usually plan things so that the food does not become old and don’t often do a big shop.”*
- *“You simply don’t do that.”*
- *“It may be rancid and I’m afraid of having food poisoning.”*
- *“It feels as though the producer of the goods is no longer guaranteeing that I can eat the product without the risk of becoming ill.”*
- *“Because the best before date has expired. It may taste bad and be dangerous.”*
- *“I believe that if the best before date has passed, the food is unsuitable. Otherwise we wouldn’t need to have any best before date.”*
- *“I’d like more information on whether you can eat or drink a product after the best before date. I sometimes drink milk the day after the date has expired and nothing bad has happened, but only in the winter.”*
- *“Because the food is usually bad before a best before date.”*

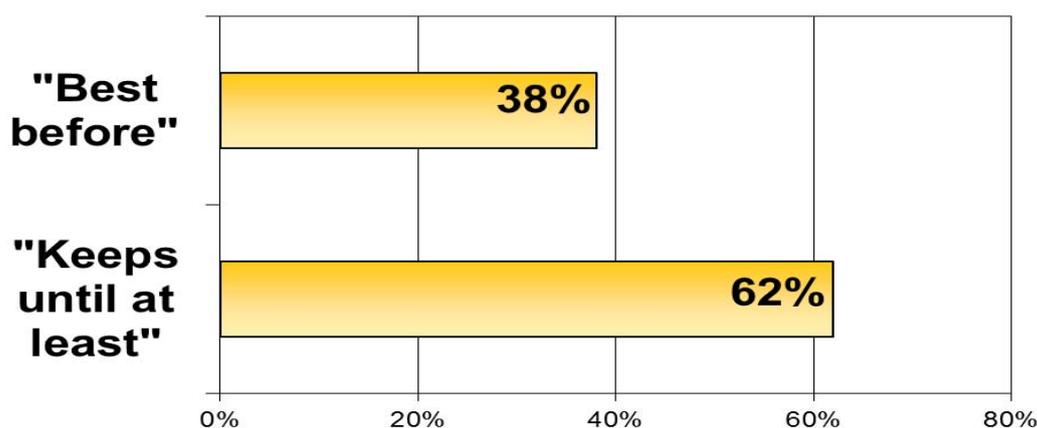
Q7: To what extent do you agree with the following statement? “If the best before date has expired, I always smell or taste to check whether the product is still any good”



Q8: Have you thrown away any of the following foods over the past week?



Q9: A food product can be completely edible even if the best before date has passed. Which of the following labels on the packaging do you think best conveys this?



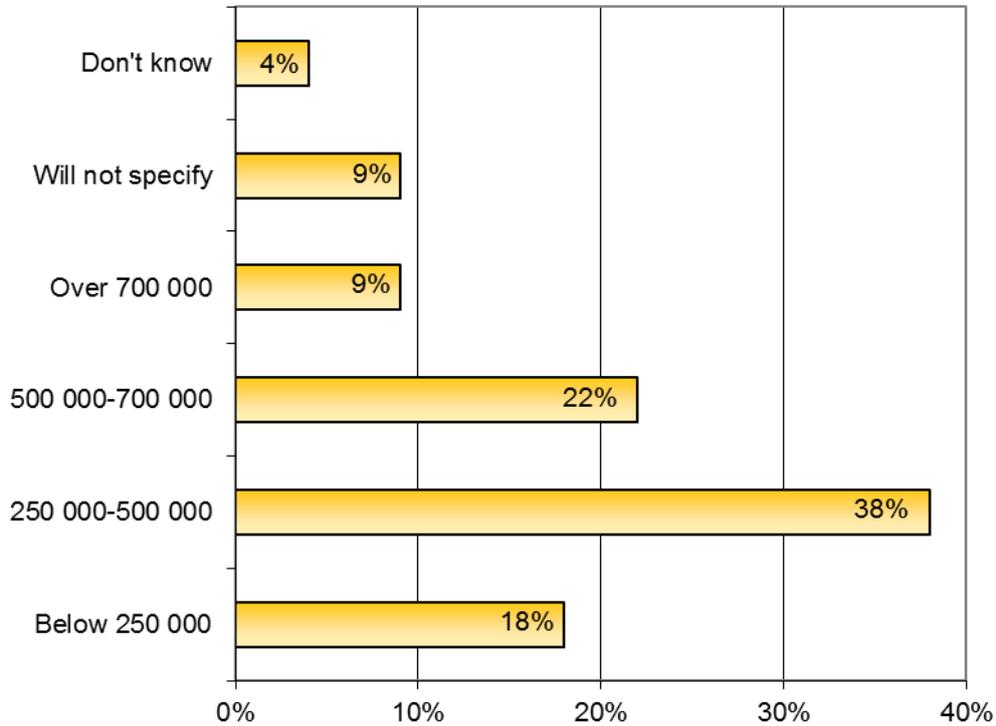
Q10: Do you have any other comments on the discarding and labelling of food?

Below follows a small selection of the approx. total of 450 comments made on this question.

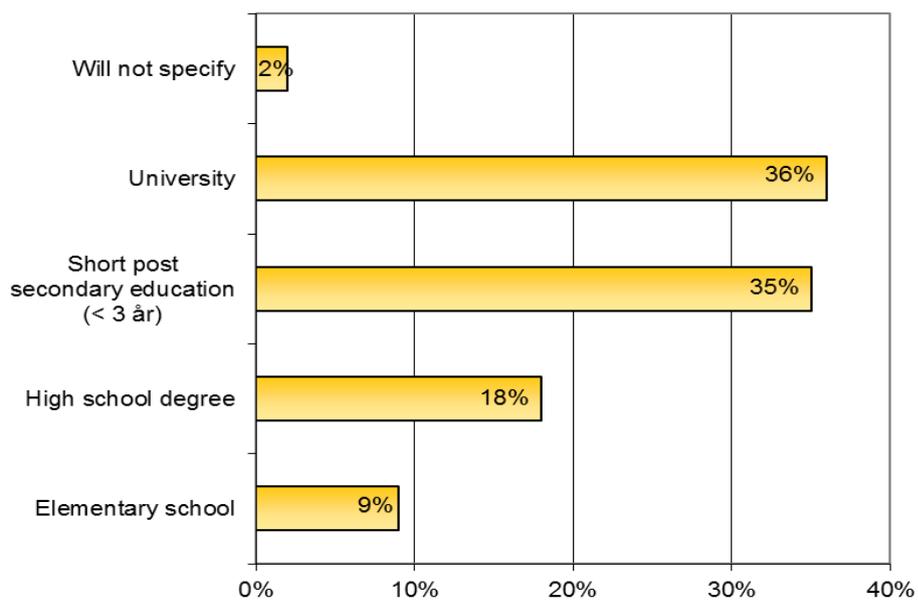
- *“The biggest mistake is that everything is in too large packages. You have neither the time nor the energy to freeze and label them or to stand at counters where you’re served in person because you’re always working. People therefore often discard food.”*
- *“I think the biggest reason why we discard food is that we’re too well off and don’t need to use everything. I was brought up never to discard food but that’s changed in recent years. Packaging size also plays a part, as does the dream of making something nice from the leftovers. I’d actually prefer the old “Use by date” label which would then be a date later than the “best before” and tell you that the product is completely edible until that date.”*
- *“I want to know the packaging date. It should be possible to compost everything.”*
- *“Smaller packs. Two-person households cannot use 400 g meat in one go, for example.”*

- *“The consumers should be informed that, for example, the best before date on eggs applies if they have been stored at room temperature. They keep for much longer if they are stored in the fridge.”*
- *“Many products such as non-perishables and dry products don’t need to be labelled in the same way as fresh products such as milk and meat. Just leads to unnecessary discarding by those who blindly follow the date label.”*
- *“Labels on bread should be the date baked, not best before.”*
- *“Everything has to have a best before label, but some food products keep long after this date while others deteriorate quickly. Maybe there should be different types of label and maybe a comment stating that if the food smells good, it can be used. For example, you can tell a bad egg straight away by the smell and old eggs can be broken into a cup before use.”*
- *“Far too narrow rules and thoughtlessness on the part of us consumers mean that we place too much emphasis on “best before”. Actually turns into unethical, wasteful people.”*
- *“The need to discard food is often due to poor planning or not having time to prepare food from what is available/leftovers.”*
- *“Best before is still linked with “use by date”... intimates that it “must” not be eaten after the date shown.”*
- *“That many things can be eaten although the best before date has expired. Would be nice to have the option to compost instead of burning/discarding.”*
- *“The date label seems to be more to protect the producer and is far too succinct. Teach people to smell and store correctly and the date label can be extended.”*
- *“That dry products and fresh products should have two different “best before” dates. Fresh products can make you ill if you eat them after the “best before” date but not dry products. With dry ones, it just means that the nutritional value is lost, not that they can make you ill.”*
- *“That we discard an awful lot of completely edible food just so the food industry and food stores have succeeded in getting us to blindly follow the absurd “best before date” should be the same worldwide if it’s going to be year/month/day, day/month/year, etc. Now (in the start of the 21st Century) it’s confusing.”*
- *“Good to also have the packaging/production date.”*
- *“Best before is still linked with “use by date”... intimates that it “must” not be eaten after the date shown.”*

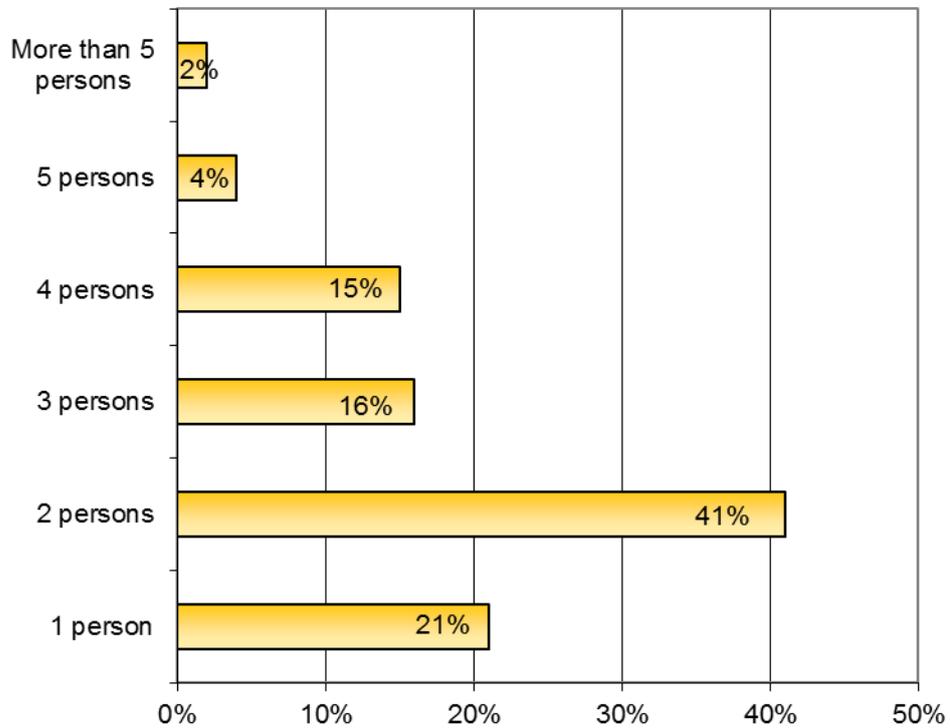
B1: What is your household's gross annual income (before tax)?



B2: What education have you had?



B3: How many people are there in your household?



Appendix 3

Report from a slop bucket

Interviews – Votes on leftover food

March 2009

Stockholm Consumer Cooperative Society

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Anna Lilja, public relations officer, tel. +4676-015 39 72

Anna Förster, freelance journalist, +46 70-221 89 98

INTERVIEW – VOTES ON LEFTOVER FOOD

This Appendix shows the list of questions that freelance journalist Anna Förster used in the interviews.

List of questions

- Do you usually look at best before dates when you shop?
- If you are going to eat directly, are you still as careful?
- What do best before dates mean to you: quality, safety or taste?
- Do you know the difference between a best before date and a use by date?
- Do you tend to buy short-dated food?
- Do you usually discard a lot of food at home? What? Why?
- If you are in doubt and choose not to discard food, do you do this for economical or environmental reasons?
- Would you like to discard less and, if so, why?
- Do you shop often or rarely? Do you buy too much or plan so everything's used?
- Do you often buy large packs or 2 for 1?
- Do you rely on your own nose?
- Do you think that the date labels are worded very precisely or with knobs on?
- Are you more tolerant of/cautious with some foods? Which? Why?
- Have you ever been made ill by food at home?
- How do you deal with mould in food? Do you discard or remove it?
- Do you keep a check on where the coldest place is in your fridge?