Attitudes and Behaviours around Sustainable Food Purchasing

Report (SERP 1011/10)

April 2011

Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London SW1P 3JR

Tel: 020 7238 6000
Website: www.defra.gov.uk

Information about this publication and copies are available from:

Food Statistics Unit
Defra Food and Farming Group
Room 309 Foss House
Kings Pool
Peasholme Green
York YO1 7PX
Tel: 01904 455069
Email: familyfood@defra.gsi.gov.uk

This document is available on the Defra website:
http://www.defra.gov.uk/statistics/foodfarm/food/

Published by the Department for Environment, Food and Rural Affairs

Contents

Detailed Contents

EXECUTIVE SUMMARY

Defra published its Business plan in November 2010. The first of the Structural Reform Priorities outlined in the plan is to support and develop British farming and encourage sustainable food production. Defra is therefore aiming to re-engage consumers with their food and to increase their confidence in it and its supply chain.

Understanding the link between attitude and behaviour towards sustainable food is likely to be a critical part of understanding how to strive for a sustainable food system. Understanding what drives the purchasing behaviour of consumers, and how it is influenced by consumer attitude, will be a step towards formulating policy aimed at securing a sustainable food system.

There is evidence on consumer attitudes towards sustainable food and also evidence on consumer purchasing patterns. Using new data on attitudes and behaviours from a single source, this project aims to draw direct comparisons between the two, investigating how attitudes translate into behaviours.

The project has two main aims:

1. To inform the indicators which track progress towards the goals set out in the Food Strategy(Defra, January 2010).
2. To inform Government policy on where the gaps are between attitude and behaviour towards sustainable food, and shed light on barriers and drivers and how these may differ between demographic groups.

Six themes were selected for the project to cover the full range of issues related to sustainable food: animal welfare, British seasonal production, ethical production, healthy balanced diet, sustainably sourced fish and environmental sustainability. The themes were chosen using the following criteria:

- If it is an issue that consumers could chose to support through their purchases
- If it is an issue raised in 'Setting the Table' (Sustainable Development Commission, December 2009)
- If the theme was within the Food Strategy (Defra, January 2010) as an area where consumers can make a difference

Defra purchased data on 3000 households for the project from Kantar which can be defined in four parts:

1. Demographic data about each household.
2. Attitude data from a Defra designed on-line questionnaire.
3. Purchases data covering a year from barcode scanned food shopping.
4. Energy and nutrient data derived from the purchases data.

The project provides real evidence of the link between attitudes and actual purchasing behaviours. It contains a wealth of statistics that can be used by policy makers. For animal welfare, it tentatively places groups of people on an engagement scale but has stopped short of suggesting an indicator of engagement. Many possibilities for further analysis within the data underlying the project are discussed.

Attitudes

Key to the project is to link attitudes and behaviours together and find out the extent to which attitude is translated into purchasing behaviour. We get an insight into this by focusing on three aspects:

- how important the issue is to the consumer
- does the consumer actively seek the more sustainable produce
- the percentage of purchases that are of products identified as being more sustainable.

The gap we target is that between motivation and actual purchasing behaviour. We do not attempt to estimate the gap between stated behaviour and actual behaviour. This would be perhaps impossible or at least very difficult to do in practice, given that respondents to the attitudinal questions were fully aware that all their purchases had been recorded.

The percentage of households who rated each of the issues as important are shown with the percentage claiming to actively seek to buy specific products related to the issue.

Theme	Important issue[1]	actively seeking
	% of households	
Animal welfare: eggs	76	65
Animal welfare: chicken		50
British seasonal	67	72
Ethical production	65	29
Healthy balanced diet	81	82
Sustainably sourced fish	70	30

[1] 'quite important' or ' very important'

All of the themes are rated as important by high levels of households but there are differences. Healthy balanced diet is rated the highest with 81% classing it as important while ethical production and British seasonal produce are rated the lowest.

Many households claim to actively seek to buy healthy foods, 82%; and British seasonal produce, 72%. Free range eggs come next with 65% actively seeking. Only 30% claim to actively seek sustainably sourced fish, and only 29% claim to actively seek fairtrade coffee and tea.

For attitude to environmental sustainability respondents were asked 17 golden questions and using the Defra pro-environment segmentation model on this data suggests that the numbers of "concerned consumers" is 26% of the population and that the numbers of "honestly disengaged" is 28%.

Purchasing Behaviour

Comparing these criteria with actual purchasing behaviour is where the project provides its real value. Actual behaviour is summarised in the table below covering the themes of animal welfare, British seasonal, ethical production and healthiness.

Purchasing Levels and Importance of Issue

	importance of issue	
	higher	lower
eggs (%free range)	50	22
chicken (%free range)	8	2
strawberries in season (%British)	72	72
apples in season (%British)	20	12
tea and coffee (%fairtrade)	7	4
5 A DAY (portions per day)	2.4	1.7
sodium (grams per person per day)	2.37	2.32
sat fat (% of energy intake)	14.6	15.0

Rating an issue as important or very important is associated with more purchases of sustainable produce.

- 0.7 portions of 5 A DAY more for those rating healthy balanced diet important.
- Over twice the proportion of free range eggs for those rating animal welfare important.
- Over 3 times the proportion of free range chicken for those rating animal welfare important (but still only 8%).
- Strawberry purchases unaffected by importance attached to the British seasonal issue.
- More sodium if you rate healthy balanced diet as important.

Purchasing Levels and Actively Seeking

	Higher importance actively seeking		Lower importance actively seeking	
	Yes	No	Yes	No
Animal welfare				
eggs (%free range)	58	15	51	12
chicken[1] (%free range)	11	3	3	2
British Seasonal				
strawberries (%British)	72	71	72	72
apples (%British)	21	16	13	12
Ethical production				
ethical (%fairtrade)	12	5	11	3
Healthy balanced diet				
5 A DAY (portions per day)	2.5	1.9	2	1.6
sodium (grams per person per day)	2.37	2.38	2.31	2.33
Saturated fatty acids (% of energy intake)	14.6	14.6	15	15

Respondents were asked if they actively seek to buy particular types of product related to the issues. The actively seek question was specific to the product monitored in the purchases data apart from chicken, apples and strawberries. For chicken the actively seek question was for free range or freedom food chicken while the purchases data identified only free range chicken. For apples and strawberries the actively seek question was about all in-season British fruit and vegetables.

[1] Respondents were asked whether they actively seek to buy free range chicken or freedom food chicken

Claiming to actively seek is the best determinant of behaviour for some items:

- Four times the proportion of free range eggs.
- Two to three times the proportion of fairtrade tea and coffee.

Importance given to the issue is the key determinant of behaviour for some items:

- Importance given to a healthy balanced diet is associated with lower levels of saturated fatty acids.
- Sodium content of purchases was actually higher for those citing healthy balanced diet as important – a key determinant but in the wrong direction.

Actively seeking and giving importance to the issue is the key determinant of behaviour for some items:

- The proportion of apples bought in the British season that that are British is highest among those who both rate British seasonal fruit and vegetables as important and claim to actively seek to buy.
- The highest number of 5 A DAY portions is by those who rate a healthy balanced diet as important and claim to actively seek a healthy balanced diet.
- The proportion of chicken that is free range is far higher among those rating animal welfare as important and claiming to actively seek to buy.

Neither importance nor claiming to actively seek helps for some items:

- The purchasing rate of British strawberries is not improved by rating British seasonal produce as important or by claiming to actively seek to buy British fruit and vegetables.

This has not yet been done for the fish theme where further work compiling lists of bar codes of MSC products is required (Marine Stewardship Council).

Barriers and Drivers

Respondents were asked to select potential barriers and drivers from a list provided on the questionnaire. Most frequently mentioned were that products were too expensive, or simply not chosen out of habit, while taste was often mentioned as a driver.

The main drivers for animal welfare were, 'wanting to be humane to animals' and taste, with taste being cited by 49%. Taste is also a driver for purchasing British seasonal produce, but not for purchasing fairtrade tea and coffee. The largest barrier for buying British in season produce is, 'wanting a wide choice'; 38% of those not actively seeking cited this as a barrier. When it comes to a healthy balanced diet, 30% of those not actively seeking healthy food thought healthy food was too expensive while 46% of those seeking healthy foods were motivated by healthy foods not being too expensive. For sustainable fish 37% had not heard of MSC.

Segmentation of the animal welfare theme

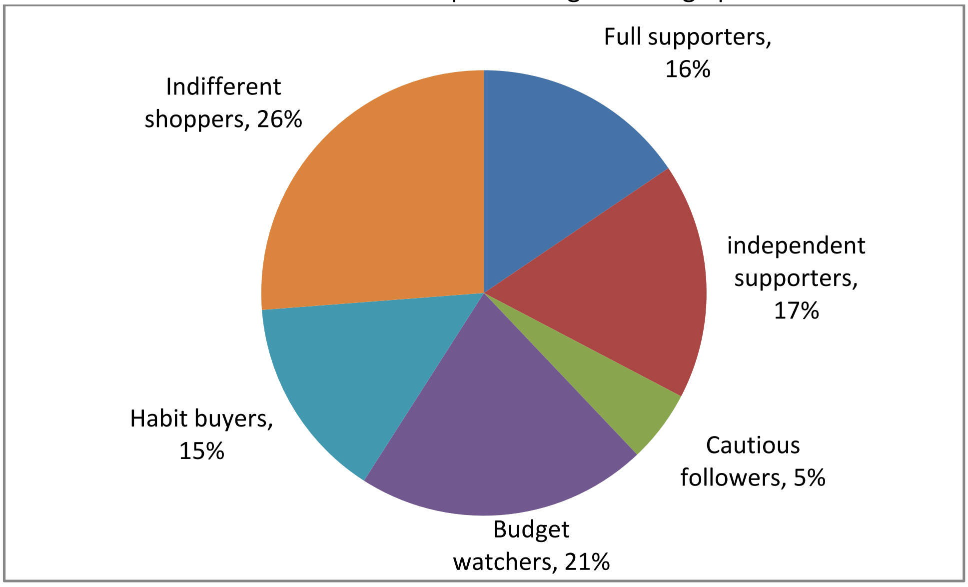
The animal welfare segmentation analysis split the respondents in to 6 separate segments:

1. **Full supporters:** Buys free range, good understanding, rates issue important
2. **Independent supporters:** Similar to 'Full supporters' but don't feel as strongly or purchase as much.
3. **Cautious followers:** Buys some free range but unsure about the ethics
4. **Budget watchers:** Animal welfare is important but can't afford to buy free range

5. **Habit buyers:** Can afford to buy free range but not in the habit of doing so
6. **Indifferent shoppers:** Is not concerned about animal welfare and buys little free range

Segmentation analysis was chosen as a means of distilling down the large volume of data to form groups of the population that are defined by their attitude, behaviour and demographics. We used multivariate statistical techniques to examine all of the attitudinal questions and some of the key behavioural information simultaneously. The aim was to find groups or clusters of households that exhibit similar patterns.

The six identified segments were placed on the engagement scale. Full Supporters and Independent Supporters could be viewed as being engaged with the issues giving an estimated 33% of the population as engaged. At the other end are Indifferent Shoppers, an estimated 25% of the population, are not engaged with the issues of animal welfare. Cautious Followers, only 5% of the population, are near the bottom of the scale because of a lack of understanding of the issues, although they are driven by taste to purchase some free range products. Budget Watchers and Habit Buyers, making 36% of the population, have good awareness and understanding of the issues of animal welfare but have barriers to purchasing free range products.



The segmentation analysis provides estimates of the extent to which each segment responded positively to each of the attitude questions and how they performed in terms of purchases. Details are shown in the main report to reveal the key aspects that distinguish each of the segments.

The animal welfare segmentation can be cross linked with the Defra pro-environmental segmentation. To a large extent those who were classed as cautious followers and indifferent shoppers in terms of animal welfare tend to be honestly disengaged in terms of the Defra pro-environmental segmentation. Demographic characteristics of the animal welfare segments are also analysed in the main report.

MAIN REPORT

1. Introduction

The current food system is unsustainable – consumption patterns are leading to increasing rates of obesity and other diet-related chronic diseases, and production practices are creating huge environmental impacts. In January 2010 Defra published the Food Strategy (Defra, January 2010) which set out to define what a sustainable food system might look like and set out priorities for the UK Government on food. This work recognised that defining a sustainable diet would make it easier for people to make informed choices about food, but that it is not straightforward.

Understanding the link between attitude and behaviour towards sustainable food is likely to be a critical part of understanding how to strive for a sustainable food system. Understanding what drives the purchasing behaviour of consumers, and how it is influenced by consumer attitude, will be a step towards formulating policy aimed at securing a sustainable food system.

Defra published its Business plan in November 2010. The first of the Structural Reform Priorities outlined in the plan is to support and develop British farming and encourage sustainable food production. In order to achieve this it is necessary to enhance the competitiveness and resilience of the whole food chain, including farms and the fish industry and to help ensure a secure, environmentally sustainable and good supply of food with improved standards of animal welfare. Consumers are a key component of the food chain in attaining this goal as their behaviour and attitudes are important in relation to sustainable production and consumption. Defra is therefore aiming to reconnect consumers with their food and to increase their confidence in its supply chain – where it comes from and its environmental impact. This project addresses the vital question of how consumer attitudes actually links with their behaviour and thus will be helpful in understanding what information consumers need to inform their purchasing and consumption patterns to achieve a sustainable and healthy food chain.

Using new data on attitudes and behaviours from a single source, this project aims to draw direct comparisons between the two, investigating how attitudes translate into behaviours.

1.1. Drivers and aims of the project

In order for Defra to play a leading role in reducing the negative effects and increasing the positive effects of the food chain on both the environment and consumer health, the link between consumer attitudes to food issues and consumer behaviours in terms of food purchasing needs to be better understood.

The project has two main aims:

1. To inform the indicators which track progress towards the goals set out in the Food Strategy.
2. To inform Government policy on where the gaps are between attitude and behaviour towards sustainable food, and shed light on barriers and drivers and how these may differ between demographic groups.

The project was built on the findings of previously published strategy documents on sustainable food:

- Food Matters, (The Strategy Unit, July 2008)
- The Food Strategy, (Defra, January 2010)

- Setting the table, (Sustainable Development Commission, December 2009)
- A Framework for Pro Environmental Behaviours (Defra, January 2008)

In July 2008 the UK Cabinet Office Strategy Unit published Food Matters (The Strategy Unit, July 2008) which signalled a fresh approach to food policy across Government. The report emphasised the need for a holistic approach to food policy, addressing health, environmental and economic challenges in a more integrated way

'Food Matters' also recommended that Defra should work to define more clearly what a sustainable food system might look like. This was tackled in the Food Strategy (Defra, January 2010) which set out the challenges and goals associated with such a food system, together with a strategy and an action plan on how this can be achieved. A suite of indicators were designed to track progress towards the goals set out in the Food Strategy and were published alongside the report.

'The Food Strategy' vision:

'Consumers are informed, can choose and afford healthy, sustainable food. This demand is met by profitable, competitive, highly skilled and resilient farming, fishing and food businesses, supported by first class research and development.

Food is produced, processed, and distributed, to feed a growing global population in ways which:
- use global natural resources sustainably,
- enable the continuing provision of the benefits and services a healthy natural environment provides,
- promote high standards of animal health and welfare,
- protect food safety,
- make a significant contribution to rural communities, and
- allow us to show global leadership on food sustainability.

Our food security is ensured through strong UK agriculture and food sectors and international trade links with EU and global partners, which support developing economies.

The UK has a low carbon food system which is efficient with resources any waste is reused, recycled or used for energy generation.'

The goals set out within the Food Strategy were split between 6 themes with indicators designed around each theme. A key element of 'Theme 1 - Enabling and encouraging people to eat a healthy, sustainable diet' recognises the need to gain a better understanding of consumer attitudes and behaviours to food purchasing and the link between the two.

This project aims to bridge that gap. Understanding the link between action and attitude will provide a key piece of evidence enabling Defra and wider Government to deliver clear information on what constitutes a sustainable diet and enabling the consumer to make an informed choice. Theme 1 from the Food Strategy is shown below. This statement has been used as a driver in the themes and survey design of this project.

Defining a healthy, sustainable diet and impacts of change: The Food Strategy

Defining a sustainable diet would make it easier for people to make informed choices about food, but it is not easy to do. A sustainable diet has many attributes – health, nutrition, access, affordability, carbon footprint, and things like production methods, sustainability of supplies (for example fish, palm oil), transport, water use, animal welfare and support for food growers in developing countries (for example Fairtrade or Rainforest Alliance).

Evidence of what constitutes a sustainable diet is still developing, but there are things people can do now in order to reduce the impact of their diet. If we all did the one thing that is most important to us, the impact of our collective action could make a big difference.

Wasting less food – food wasted by households in the UK makes up 3% of total UK greenhouse gas emissions per year, and costs households an average of £480 a year. Wasting less food would mean that greenhouse gas emissions associated with food production would be reduced. Halving household food waste would be equivalent to talking 1 in 8 cars off the road.

Eating food that is in season – food that relies on natural sunlight and temperatures to grow (and tends therefore to be grown in its natural season) tends to cost less as production and distribution costs are lower. Seasonality also relates to produce grown overseas and imported to the UK, complementing the UK growing season – for example importing Seville oranges in January.

Buying food which has been shown to be produced sustainably, indicated by an industry label like the MSC certification or equivalent for fish, produced to higher animal welfare standards, or which supports food growers in developing countries.

The Food Strategy (Defra, January 2010)

In December 2009, the Sustainable Development Commission (SDC) published the report 'Setting the table' which prioritised changes that consumers can make to their diets that would contribute the most progress towards a sustainable diet. These changes were grouped into three, according to how much impact the action would have and were referenced when creating the themes of this project.

Changes to diet grouped by impact

1. Changes likely to have the most significant and immediate impact on making our diets more sustainable, in which health, environmental, economic and social impacts are more likely to complement each other:
- reducing consumption of meat and dairy products
- reducing consumption of food and drink of low nutritional value (i.e. fatty and sugary foods)
- reducing food waste

2. Changes likely to have a significant positive sustainability impact, but where gains in one area might have a more negative impact in other areas:
- increasing consumption of fruit and vegetables, particularly seasonal and field grown
- consuming only fish from sustainable stocks
- increasing consumption of foods produced with respect for wildlife and the environment e.g. organic food

3. Changes which will make a smaller contribution to making our diets sustainable, with largely complementary effects across key areas:
- reducing energy input by shopping on foot or over the internet, and cooking and storing

food in energy conserving ways
- drinking tap water instead of bottled water

Setting the Table (Sustainable Development Commission, December 2009)

In January 2008, Defra released the report 'A Framework for Pro Environmental Behaviours'. This pulled together evidence on public understanding, attitudes and behaviours. The work identified a series of behaviour goals and then analysed how the public relate to them. The result was a segmentation analysis grouping respondents according to their willingness and ability to act. We make use of this segmentation analysis and asked the same questions in our survey. We investigate how the responses may have changed since the initial analysis (see Section 9).

1.2. Scope of the project

This project covers elements of a sustainable food system that can be tracked from a consumer viewpoint. The project is made up of the following elements:

- Attitude survey - asking respondents about motivation, understanding and claimed behaviour
- Behaviours data - using the same respondents, we analyse their shopping habits for key items over a year prior to the survey
- Nutritional data – purchases are converted into energy and nutrient intakes to allow comparisons to healthy eating guidelines

All questions and data specifications can be seen in annexes 3 and 4.

Attitude questions were designed from a consumer perspective and to gauge understanding. Overall attitude questions were framed around food products that could be identified in the behaviour data we obtained from Kantar (Household Worldpanel). For instance in the case of animal welfare, as Kantar were able to identify free range chicken purchases, the questions were only framed around free range chicken, not animal welfare in general. Thus people who put their beliefs on animal welfare into practise in ways other than purchasing free range chicken and eggs, are in a sense out of scope, for example vegans.

Only household food and drink were within scope of the project, due in part to data availability, i.e. eating out was out of scope. However, Family Food (Defra, November 2010) states that only 11% of food and drink energy comes from food eaten out of the home ("Eating out" is defined as all food and drink that is consumed by members of the household having never been taken into the household). So focusing on household food should not incur a huge loss of information.

1.3. Sustainable Food Themes

The sustainable food themes in this project were chosen and defined using the following criteria:

- If it is an issue that consumers could chose to support through their purchases
- If it is an issue raised in 'Setting the Table' (Sustainable Development Commission, December 2009)
- If the theme was within Food2030 (Defra, January 2010) as an area where consumers can make a difference

The project starts with an analysis of general shopping habits and general approach to each theme (Section 2). It aims to establish how important each of the project themes are when shopping to gauge overall importance:

Project Themes

Animal welfare
Providing enough food for a growing global population should not come at the expense of animal welfare. The Food Strategy set out the goal to 'promote high standards of animal health and welfare'. We want to see how engaged and informed the consumer is in this issue.

British seasonal food
Buying food locally and in season making efficient use of natural resources. In order to allow for comparisons with the data available, only British seasonal food is included in this analysis.

Ethical produce
Buying food which has been produced to support food growers in developing countries was identified in The Food Strategy.

Healthy eating
Ensuring consumers are able to feed themselves in a healthy way is crucial to a sustainable food system. This not only means that healthy food is available, but that consumers want to and choose to buy it.

Sustainable fishing
Supporting sustainable fishing and schemes such as the Marine Stewardship Council's certification scheme were seen as ways consumers can support a sustainable food system.

Environmental sustainability
This encompasses a whole host of issues from eating less meat and dairy, to using a car less for shopping trips, through to wasting less food. Defra's pro-environmental framework groups the population in to seven segments based on the combination of their willingness to act and their ability to act. The research investigated the different motivations and barriers that each group face and drew conclusions on their potential for change.

1.4. Key questions within the themes

Within each project theme, apart from environmental sustainability, there is a question asking consumers if they actively seek to buy food(s) that were identified by the steering group as indicative of what a consumer seeking a sustainable food system might buy. These questions are the lead questions used to link into the behaviours. The table below details the 'seeking' question asked and the corresponding behaviour tracked.

Table 1. Key seek and behaviour questions

Theme	Seeking questions(s)	Seeking behaviours
Animal welfare	When shopping for eggs I actively seek free range varieties. When shopping for chicken I actively seek free range varieties.	Free range eggs as proportion of all eggs. Free range chicken as a proportion of all chicken (not composite meals).
British	When buying fresh fruit and vegetables I	British apples in season as proportion

seasonal food	actively seek seasonal British produce.	of all apple purchases. British strawberries in season as proportion of all strawberry purchases.
Ethical produce	When shopping for tea/coffee I actively seek to buy Fairtrade	Fair trade tea or coffee as a proportion of all tea or coffee.
Healthy eating	When shopping for food, I actively seek products that will ensure my diet is healthy and balanced.	5-a-day fruit and vegetable purchases. Saturated fatty acids content of food purchases. Sodium content of food purchases.
Sustainable fishing	I actively seek to buy fish and shellfish labelled as sustainable by Marine Stewardship Council (MSC).	MSC fish as a proportion of all fish (yet to be completed).
Environmental sustainability	Defra pro-environmental segmentation questions were asked. See Environmental section for more information.	Purchasing behaviours not analysed.

For each question above, respondents are given seven answer options. Depending on how respondents answer these questions determines whether they are then presented with a set of follow up questions to tease out the barriers or the drivers behind their behaviours. Those answering 'I am doing this but not as much as I'd like' are routed to both barrier and driver options so we can see what motivating them to buy the product in question and what is stopping them buying more. The routing, the way respondents were directed, can be defined as follows:

Table 2. Routing to barrier and driver questions

Response option	Routed to
I haven't given this any thought	Barriers
I don't want to do this	Barriers
I am thinking about doing this	Barriers
I am doing this	Drivers
I am doing this but not as much as I'd like	Both
I have done this before but I am no longer doing it	Barriers
Not applicable – I don't buy this food item	Neither

The barrier and driver options are tailored to each theme and are shown in full in Annex 3.

1.5. Analysis of the Attitude/Behaviour Gap

Key to the project is to link attitudes and behaviours together and find out the extent to which attitude is translated into purchasing behaviour. We get an insight into this by focusing on three aspects:

- how important the issue is to the consumer
- does the consumer actively seek the more sustainable produce
- the percentage of purchases that are of products identified as being more sustainable.

These three aspects are presented for each theme to shed light on the gap between attitude and purchasing behaviour. For each theme, the approach was to gain information on the following:

Attitude questionnaire	Behaviour and demographics
- does the respondent understand the issues? - does the respondent actively seek to be sustainable in this area? - what are the barriers and drivers that influence the respondents behaviour?	- does the respondent actually do what they claim? - what are the demographics of those with different behaviours?

The gap we target is that between motivation and actual purchasing behaviour. We do not attempt to estimate the gap between stated behaviour and actual behaviour – that is we don't ask respondents to tell us what they actually bought but merely whether they actively seek to buy. This would be perhaps impossible or at least very difficult to do in practice, given that respondents to the attitudinal questions were fully aware that all their purchases had been recorded.

1.6. Segmentation analysis for Animal Welfare

In addition to the standard theme analyses Animal Welfare is used as a test case for a more involved segmentation analysis.

Segmentation analysis was chosen as a means of distilling down the large volume of data. It splits the population into segments that are defined by their attitudes, behaviours and demographics. This was seen as an easy to understand way to present key messages about groups of people's attitudes and behaviours.

This leads to an 'Engagement Scale' for animal welfare that places population segments on a ladder, starting at the bottom with those who are unaware or unconcerned about the issues, right to the top to those who are fully aware, engaged in the issue and displaying purchasing behaviour that reflects their beliefs.

Table 3. Engagement Scale

1.7. Data source

Defra paid for data from a private sector market research company, Kantar. The survey information was provided by a representative sample of Kantar's Worldpanel using their LINKQ service.

The Household Worldpanel is a panel of households in Great Britain who record all household food and drink purchases each week via a barcode scanner which transmits the information on the barcode to Kantar. Households generally remain in the survey for a number of years. Each member of the household records food and drink brought into the house and figures are calculated at household level. The Worldpanel consists of 25,000 respondents of which, 19,000 are available for on-line surveying in the LINKQ service. Those available for on-line survey can expect to be asked questions on any subject for up to 15 minutes once a month. This is done in their own home through an internet connection.

Using the LINKQ service a representative sample of 3,000 households within the Household Worldpanel was selected to complete an on-line 15 minute questionnaire designed by Defra. Kantar selected the sample to approximately match UK demographic proportions for social class and age of the survey respondent who is classed as the main shopper for the household.

Data on food and drink purchases for each of the 3,000 households was provided by Kantar, thus giving us the unique link between attitudes and purchasing behaviours. The purchases data covered a year leading up to the survey date and was spilt into 13 four-week periods. To avoid any seasonal effect or any other short-term influences on purchasing behaviours such as media campaigns the data was aggregated to the whole year, except for the British seasonal theme where only in-season periods were analysed. Kantar converted the food purchase data into energy and nutrient content. The variables of the data received from Kantar are shown in annex 3.

The attitude survey was run over a two week period beginning 30th August 2010, whilst the purchase data covered a year to 14th August 2010.

The data Defra purchased from Kantar can be defined in four parts:

1. Demographic data about each household.
2. Attitude data from the on-line questionnaire.
3. Purchases data from the scanned shopping.
4. Energy and nutrient data derived from the purchases data.

The steering group considered the relative strengths and weaknesses of using the Kantar Worldpanel for the project. A key factor was that Kantar could provide nutrition content of the food purchases. Table 4 outlines the factors in the decision.

Table 4. Advantages and limitations of the approach

Advantages	Limitations
- Detailed data at barcode level of household food purchases - Attitudes and behaviours can be directly linked at household level - Up-to-date data on purchases by month - Up-to-date attitudes data - The project can be run again in the future to gauge how attitudes and behaviours are changing - representative sample of the GB population	- Foods without a barcode may be under recorded - Household level purchase data. Not able to split this down to individual level - Data is for purchases not consumption and no estimation is made for waste (only an issue for healthy eating and environmental themes) - Northern Ireland not covered

1.8. Steering group

To ensure consistency across these issues a steering group was set up consisting of experts in policy and social research within Defra policy and wider Government. The steering group was particularly influential at the design stage. The steering group helped to define the ‘themes’ of the project and refine the questions asked of respondents to ensure inferences could be drawn in relation to policies.

2. General Analysis and Headline Findings

The first part of the survey examined respondents' general attitude to the sustainable food themes and shopping more broadly. This was done by a series of questions on:

(a) How important sustainable food is when shopping (see 2.1)
(b) What is on their mind whilst deciding what to buy, e.g. special offers or wants of household members. (see 2.2)

The questioning aimed to establish: importance given to each issue, understanding of each issue, and motivation to act on each issue.

The second part of the survey was divided into the six themes and for each theme respondents were asked questions to elicit: their understanding of the issue, whether they actively seek to purchase particular specified products associated with the issue (for example fairtrade tea and coffee in the ethical theme), and to identify barriers and drivers behind purchasing the particular products.

There were 3123 respondents to the on-line survey which took place in August 2010. For each respondent, we also received household purchase data covering the time frame 16th August 2009 to 14th August 2010.

2.1. General attitude to sustainable food

To gauge how respondents rated each theme we asked how important each was when shopping for food. Results below show that health receives the highest overall importance rating, with 81% saying this is very important or quite important. Animal welfare received the highest 'very important' score with 31% claiming this is very important.

Table 5. Importance of sustainable food

How important do you rate each item when shopping for food?	Results (% in brackets)				
	Very important	Quite important	Neither important nor unimportant	Not very important	Not at all important
Whether meat and eggs have been produced to high animal welfare standards	970 (31)	1408 (45)	599 (19)	118 (4)	28 (1)
Whether the food item is British and in season	592(19)	1496 (48)	807 (26)	191 (6)	37 (1)
Whether the food has been produced ethically	570 (18)	1463 (47)	895 (29)	158 (5)	37 (1)
Whether it forms part of a healthy balanced diet	902(29)	1636 (52)	503 (16)	70 (2)	12 (0)
Whether the fish comes from a sustainable source	779 (25)	1413 (45)	754 (24)	130 (4)	47 (2)
Whether the item has been produced with respect to the environment	583 (19)	1522 (49)	840 (27)	144 (5)	34 (1)

2.2. General attitude to shopping

Other general attitude questions focus on shopping habits. Respondents were asked to tick all that applied of the list below. It is clear that respondents are driven by special offers (82%) and food that they need to stock up on (83%) (in effect, the opposite of special offers). These questions will feature in further analysis.

Table 6. Approach to shopping

Which of the following, if any, are on your mind whilst deciding what to buy when you are shopping? Tick all that apply	Results (%)
The particular food needs / wants of others in the household	1870 (60)
Any special offers that week	2572 (82)
Buying the best quality food	1345 (43)
Trying to get the cheapest food I can	1005 (32)
What I need to stock up on	2602 (83)
Ingredients for specific meals	1962 (63)
Whether I can use products by the use-by-date	1559 (50)
None of the above	9 (0)

2.3. Attitudes

The percentage of households who rated each of the issues (in table 5) as important (measured as quite important or very important) are shown below alongside the percentage claiming to actively seek to buy some specific products that are directly linked with the issue.

Table 7. Importance and actively seeking

Theme	Important issue[1]	actively seeking
	% of households	
Animal welfare: eggs	76	65
Animal welfare: chicken		50
British seasonal	67	72
Ethical production	65	29
Healthy balanced diet	81	82
Sustainably sourced fish	70	30

[1] 'quite important' or ' very important'

All of the themes are rated as important by high levels of households but there are differences. Healthy balanced diet is rated the highest with 81% classing it as important while ethical production and British seasonal produce are rated the lowest.

Many households claim to actively seek to buy healthy foods 82%, and British seasonal produce, 72%. Free range eggs come next with 65% actively seeking. Only 30% claim to actively seek sustainably sourced fish, and only 29% claim to actively seek fairtrade coffee and tea.

2.1. Behaviours

Comparing these criteria with actual purchasing behaviour is where the project provides its real value. Actual behaviour is summarised in the table 8 and table 9 covering the themes of animal welfare, British seasonal, ethical production and healthiness.

Table 8. Purchasing Levels and Importance of Issue

	importance of issue	
	higher	lower
eggs (%free range)	50	22
chicken (%free range)	8	2
strawberries in season (%British)	72	72
apples in season (%British)	20	12
tea and coffee (%fairtrade)	7	4
5 A DAY (portions per day)	2.4	1.7
sodium (grams per person per day)	2.37	2.32
sat fat (% of energy intake)	14.6	15.0

Rating an issue as important or very important is associated with more purchases of sustainable produce. For animal welfare the effect is to more than double the proportion of free range purchases of eggs and chicken. Smaller but still substantial effects are apparent for British seasonal support in terms of apples but not strawberries, and for ethical produce in terms of fairtrade tea and coffee. When it comes to importance of a healthy balanced diet there is an effect on 5 A DAY and on saturated fatty acids but not on sodium.

- 0.7 portions of 5 A DAY more for those rating healthy balanced diet important.
- Over twice the proportion of free range eggs for those rating animal welfare important.
- Over 3 times the proportion of free range chicken for those rating animal welfare important (but still only 8%).
- Strawberry purchases unaffected by importance attached to the British seasonal issue.
- More sodium if you rate healthy balanced diet as important.

Table 9. Purchasing Levels and Actively Seeking

	Higher importance actively seeking		Lower importance actively seeking	
	Yes	No	Yes	No
Animal welfare				
eggs (%free range)	58	15	51	12
chicken[2] (%free range)	11	3	3	2
British Seasonal				
strawberries (%British)	72	71	72	72
apples (%British)	21	16	13	12
Ethical production				
ethical (%fairtrade)	12	5	11	3
Healthy balanced diet				
5 A DAY (portions per day)	2.5	1.9	2	1.6
sodium (grams per person per day)	2.37	2.38	2.31	2.33
Saturated fatty acids (% of energy intake)	14.6	14.6	15	15

[2] Respondents were asked whether they actively seek to buy free range chicken or freedom food chicken

Respondents were asked if they actively seek to buy particular types of product related to the issues. The actively seek question was specific to the product monitored in the purchases data apart from chicken, apples and strawberries. For chicken the actively seek question was for free range or freedom food chicken while the purchases data identified only free range chicken. For apples and strawberries the actively seek question was about all in-season British fruit and vegetables.

Claiming to actively seek is the best determinant of behaviour for some items:

- Four times the proportion of free range eggs.
- Two to three times the proportion of fairtrade tea and coffee.

Importance given to the issue is the key determinant of behaviour for some items:

- Importance given to a healthy balanced diet is associated with lower levels of saturated fatty acids.
- Sodium content of purchases was actually higher for those citing healthy balanced diet as important – a key determinant but in the wrong direction.

Actively seeking and giving importance to the issue is the key determinant of behaviour for some items:

- The proportion of apples bought in the British season that that are British is highest among those who both rate British Seasonal fruit and vegetables as important and claim to actively seek to buy.
- The highest number of 5 A DAY portions is by those who rate a healthy balanced diet as important and claim to actively seek a healthy balanced diet.
- The proportion of chicken that is free range is far higher among those rating animal welfare as important and claiming to actively seek to buy.

Neither importance nor claiming to actively seek helps for some items:

- The Purchasing rate of British strawberries is not improved by rating British Seasonal produce as important or by claiming to actively seek to buy British fruit and vegetables.

This has not yet been done for the fish theme where further work compiling lists of bar codes of MSC products is required.

Barriers and drivers

Having related importance and understanding of issues with motivation to act and with actual behaviour the project next investigated barriers and drivers. Respondents were asked to select potential barriers and drivers from a list provided on the questionnaire. This aspect of the project only identifies perceived barriers and drivers. Most frequently mentioned were that products were too expensive, or simply not chosen out of habit, while taste was often mentioned as a driver.

Animal Welfare

For free range eggs 68% of those not actively seeking free range eggs claimed they were too expensive, while 21% (possibly a large overlap) claimed habit was a barrier. For free range or freedom food chicken the barriers appeared very similar to those for free range eggs. The main drivers were 'wanting to be humane to animals 'and taste, with taste being cited by 49% for both free range eggs and for free range chicken.

British Seasonal

The largest barrier for buying British in season produce is 'wanting a wide choice', 38% of those not actively seeking cited this as a barrier. 31% claimed it was too expensive while 25% cited habit as a barrier. Those claiming to actively seek British in season produce claimed that they were happy to eat in season, with 46% citing taste as a driver.

Ethically Sourced
There were similar barriers and drivers for both fairtrade tea and fairtrade coffee. The main barrier was habit cited by over 50% of those not actively seeking while about a quarter claim 'it's too expensive'. Taste was not an important driver.

Healthy balanced diet
Of those not actively seeking 37% claimed that they need to have the foods they like, while 30% thought healthy food was too expensive. Habit was cited by 24% as a barrier. Of those who do actively seek the fact that healthy food is not too expensive was seen as a driver by 46%.

Sustainably sourced fish
37% had not heard of MSC while 24% thought MSC fish was too expensive and 24% claimed habit as a barrier. The main drivers were feel good factor cited by 49% and belief in the issue cited by 80%.

The following section cover the analysis for each theme in turn including a segmentation analysis is carried out for the animal welfare theme in section 4.

3. Animal welfare

High standards of animal welfare are considered a key element of a sustainable diet. There are robust Government guidelines on animal welfare, however it is recognised that some consumers may wish to purchase items which were produced to perceived higher standards.

As the focus of this project is how consumers can demonstrate support of a sustainable food system through their food choices, we chose free range chicken and free range eggs to be the behaviours to track through purchases. It was deemed that if consumers wanted to support higher levels of animal welfare, this is how they would do it. Both were chosen to be included as it was anticipated that attitudes and behaviours towards chicken and eggs would vary as free range chicken costs proportionally more than non-free range chicken than free range eggs compared to non-free range. Chicken refers only to whole and part chicken pieces and does not include composite meals which tend not to be free range certified.

3.1. Attitudes

Attitudes questions can be seen in Annex 3. Key findings are shown outlined in this section.

Animal welfare is rated a very important issue by 31 per cent of people, which is more than health at 29 per cent and any of the other Defra sustainability issues related to food (see table 5). It is rated 'quite important' by a further 45 per cent of people, demonstrating a high level of interest in the welfare of animals bred for the food chain.

Table 10. Understanding of animal welfare

	Results (% in brackets)				
	Strong agree	Tend agree	Neither	Tend disagree	Disagree
Free range products have higher welfare standards	689 (22)	1565 (50)	780 (25)	77 (2)	12 (0)
I don't know how to tell if a product meets high animal welfare standards	195 (6)	1256 (40)	992 (32)	574 (18)	106 (3)
Retailers should ensure they only sell products that have higher animal welfare	706 (23)	1287 (41)	958 (31)	142 (5)	30 (1)
I think that higher value ranges in supermarkets, such as 'taste the difference' or 'finest' have higher animal welfare standards	116 (4)	586 (19)	1772 (57)	568 (18)	81 (3)
I have a good understanding of the issues surrounding animal welfare	218 (7)	1065 (34)	1263 (40)	522 (17)	55 (2)

Question	Findings
Free range products have higher welfare standards	This question gives us the first level of understanding on the issue. 72% either strongly agree or tend to agree, while only 2% disagree or tend to disagree. It tells us that there is widespread understanding that free range is good for animal welfare.
I don't know how to tell if a product meets high animal welfare standards	21% of respondents claim not to be able to tell which products have high animal welfare standards while only 6% strongly agree that they can tell. This suggests that

	labelling is not clear enough or perhaps that there are varying standards not all being understood widely.
Retailers should ensure they only sell products that have higher animal welfare	Only 6% either disagree or tend to disagree. Thus most people see a responsibility on the retailer.
I think that higher value ranges in supermarkets, such as 'taste the difference' or 'finest' have higher animal welfare standards	Responses to this question are symmetrical with 57% of people neither agreeing or disagreeing. The question was not very informative in the analysis.
I have a good understanding of the issues surrounding animal welfare	Only 7% strongly agree which tells us that there is a knowledge gap on this issue.

3.2. Actively Seeking

Rather than simply ask if people are actively seeking or not we tried to find out more about their position to get an idea of their propensity to act by expanding the question into seven options as shown below.

Table 11. Actively seeking animal welfare products

	Results (% in brackets)						
	I haven't given this any thought	I don't want to do this	I am thinking about doing this	I am doing this	I am doing this but not as much as I'd like	I have done this before but I am no longer doing it	Not applicable – I don't buy this food item
When shopping for eggs I actively seek free range varieties	564 (18)	125 (4)	132 (4)	1531 (49)	489 (16)	130 (4)	152 (5)
When shopping for chicken I actively seek free range or freedom food varieties	751 (24)	147 (5)	301 (10)	848 (27)	722 (23)	147 (5)	207 (7)

Fewer people are actively seeking free range chicken (27%) than free range eggs (49%). The amounts saying they 'don't want to do this' and 'have done it before but no longer' are about the same for both eggs and chicken. These groups have made more of a positive decision against purchasing free range than other groups. We consider that those most likely to change behaviour are those who respond:

- I haven't given this any thought, or
- I am thinking about doing this, or
- I am doing this but not as much as I'd like

This is 38% of people for free range eggs and 57% of people for free range chicken.

3.3. Behaviours

The behaviours we linked to the attitudes questions were purchases of free range eggs and free range chicken. The results displayed are for the proportion of free range eggs and free range chicken compared to non free range. The frequency distribution is shown below:

Table 12. Free Range Egg and Chicken Purchases

Free range eggs		
% free range eggs purchased	Number of households	% of households
0 - 10	895	31
10 - 20	200	7
20 - 30	144	5
30 - 40	126	4
40 - 50	118	4
50 - 60	84	3
60 - 70	88	3
70 - 80	133	5
80 - 90	165	6
90 - 100	947	33
Total	2900	100

Free range chicken		
% free range chicken purchased	Number of households	% of households
0 - 10	2442	83
10 - 20	189	6
20 - 30	95	3
30 - 40	58	2
40 - 50	37	1
50 - 60	28	1
60 - 70	20	1
70 - 80	19	1
80 - 90	21	1
90 - 100	25	1
Total	2934	100

The data shows a real split in the purchase habits of free range eggs. One third of respondents buy almost all eggs as free range, one third buy almost none, with the rest spread in-between the two extremes. The purchase of free range chicken is less popular. 88% of households (that buy chicken) buy this between 0-10% of the time including 75% never buying any at all.

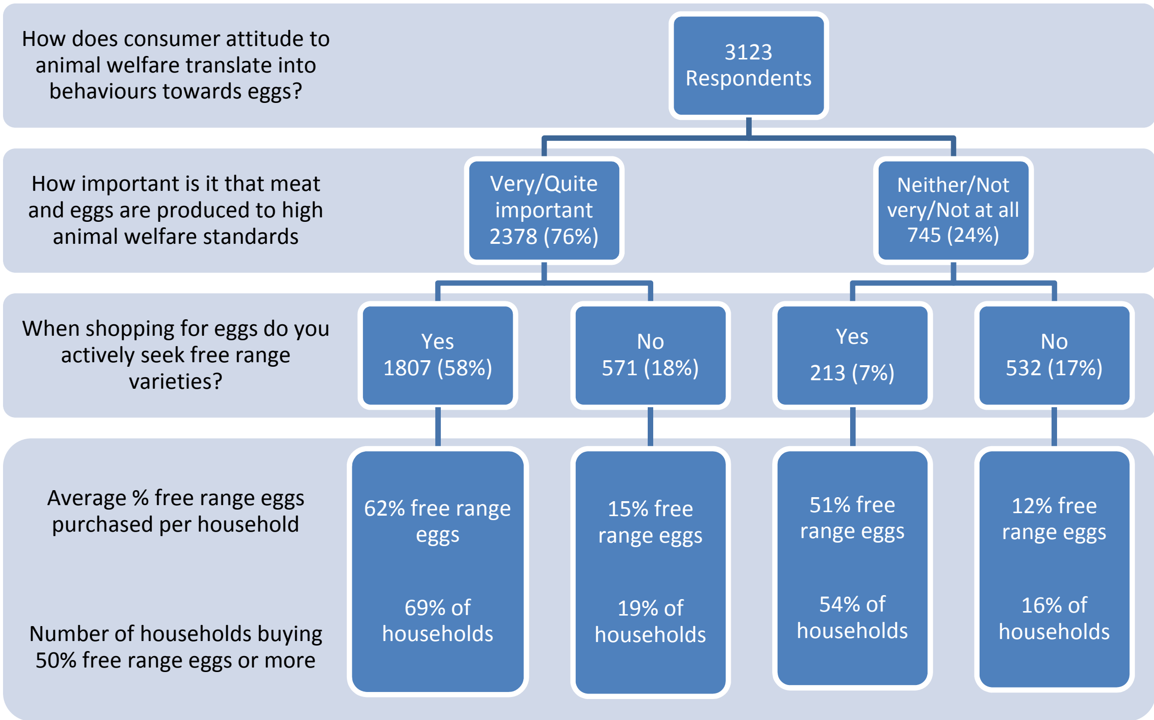
3.4. Linking attitudes and behaviours

Looking at attitudes and behaviours together gives us a better understanding of consumer behaviour. The first flow diagrams below look at free range eggs and free range chickens in turn and splits out respondents depending on how they answered the following questions:

- when shopping, how important is it to you that meat and eggs are produced to a high animal welfare standard?
- When shopping for eggs do you actively seek free range varieties
- When shopping for chicken do you actively seek free range or freedom food varieties

We then calculated the average percentage of free range eggs and chickens purchased in these groups and at the percentage of households who purchased free range eggs 50% or more of the time and chicken 10% or more of the time. The cut off points of 50% and 10% were chosen to provide a split of households into two large groups. It is important to have a large sample in each group in order to get reliable results from the sample.

Table 13. Attitudes and Behaviours to Free Range Eggs

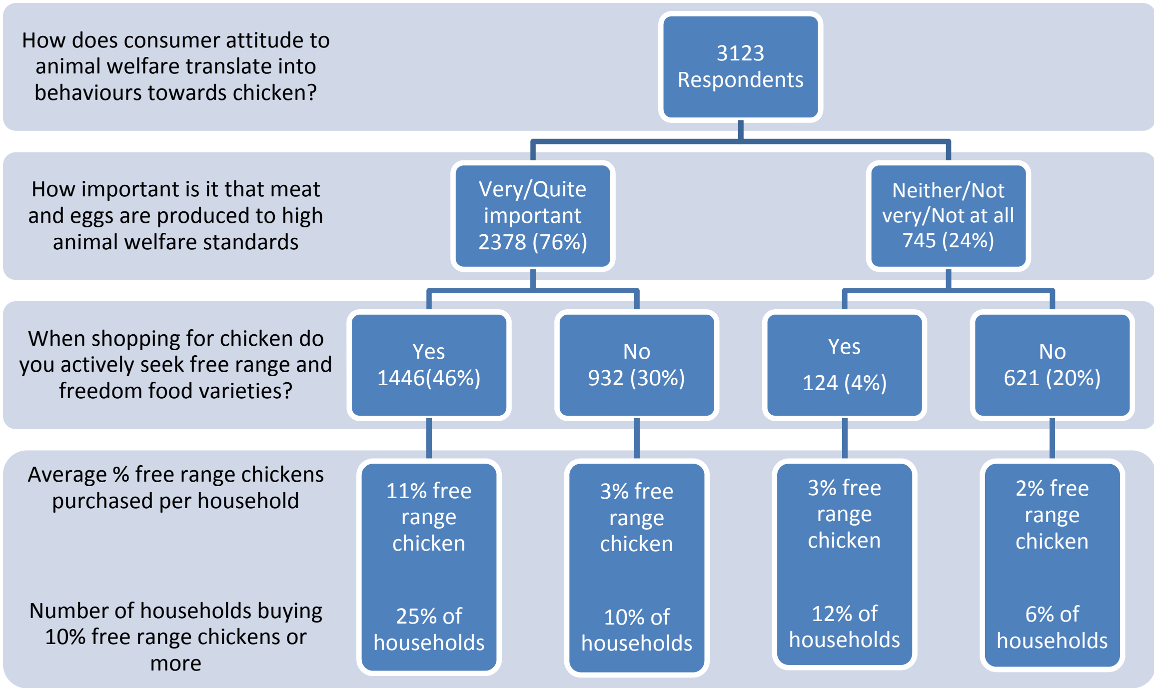


The diagram shows that over half of respondents, 58%, believe that animal welfare is important and believe they put this into practice through seeking free range eggs. This group achieves purchases of eggs that are 62% free range. Some 69% of the households in this group buy more than half of their eggs as free range.

Actively seeking is the key to determiner of purchases of free range eggs. Those claiming to actively seek but not rating the issue as important achieved 54% free range eggs which is substantially more than the 12% to 15% of purchases that those not actively seeking achieved regardless of importance of the issue. This suggests that people purchase free range eggs for reasons other than animal welfare.

Caring about animal welfare isn't a pre-requisite for buying free range. A small group comprising 7% of the population don't rate animal welfare as important but actively seek free range eggs. This group achieves purchases of eggs that are 51% free range.

Table 14. Attitudes and Behaviours to Free Range Chicken



It is clear that far fewer household buy free range chicken than free range eggs. Almost half households (46%) claim to think animal welfare is important and claim to seek free range or freedom food chicken but they only achieve an average of 11% of purchases as free range chicken. Compared to a 64% achievement rate for free range eggs, this is much reduced. This will be partly explained by some of them actively seeking freedom food varieties rather than free range.

The best determinant of purchases of free range chicken is both considering the issue important and claiming to actively seek. All other groups achieved very low levels of purchases.

Those who claim to actively seek free range or freedom food chicken but not to attach importance to the issue achieve a low level of free range chicken, only 3% of purchases. This is a similar level to those not claiming to actively seek free range or freedom food chicken. This small group claim to act but don't (only 4% of population).

For both the chicken and egg analysis above, the barrier and driver options give valuable insight into the reasons for the claimed behaviour.

3.5. Barrier and Driver questions

Table 11 showed that for free range eggs almost half of respondents, 49%, claim to be actively seeking ('I am doing this') with another 16% claiming to be actively seeking but wanting to do it more. These two groups of respondents 65% were asked questions about what drives their behaviour. The 51% not claiming to be fully actively seeking free range eggs were asked about barriers. This meant that those responding with 'I am doing this but not as much as I'd like' were asked about both barriers and drivers.

For free range chicken, around a quarter of respondents, 27%, claim to be actively seeking and a further 23% claim to be actively seeking but wanting to do more. These 50% of respondents were asked questions about what drives their behaviour. The 73% not claiming to be fully actively seeking free range chicken were asked about barriers, again, those responding with 'I am doing this but not as much as I'd like were asked about both barriers and drivers.

Barriers to buying free range

For both free range eggs and chicken, the biggest barrier is price with 68% of the respondents asked about barriers identifying price. If we look at this in terms of all respondents, and assume that those who do not have barriers do not have price as a barrier, then over the whole sample population we estimate that 33% see price as a barrier for free range eggs while 48% see price as a barrier for free range chicken. Habit is also a sizeable barrier with around 20% of respondents citing this. The other barriers were cited few times.

Table 15. Barriers Questions

	Barriers (% in brackets)	
	Eggs	Chicken
Too expensive for my budget	975 (68)	1403 (68)
How animals are reared is not important	24 (2)	41 (2)
There is no benefit in the taste	242 (17)	250 (12)
It is too much of an inconvenience to find	59 (4)	116 (6)
Not an option where I shop	53 (4)	103 (5)
I buy the same products out of habit	303 (21)	417 (20)
The Government standard for animal welfare is enough	126 (9)	156 (8)
Other / None of the above	144 (10)	204 (10)

Note: this was only an option for those who do not claim to seek free range eggs or chicken. Those answering 'I am doing this but not as much as I'd like' were able to answer both barrier and driver options but they are not included in this analysis of the barriers. For eggs 35% of the sample completed the barrier questions, and for chicken 50% of the sample completed the barrier questions.

Drivers to buying free range

Of the total respondents, 65% were asked about drivers for free range eggs and 50% were asked about drivers for free range chicken.

The largest driver for wanting to buy both free range eggs and chicken is 'ensuring that animals are treated humanely' with around three-quarters of respondents citing this as a driver. Improved taste is more of a driver for free range chicken with 59% selecting this compared to 49% for eggs. 'Feeling good about yourself' is also a driver with just under 50% of respondents selecting this for both eggs and chicken.

Table 16. Drivers Questions

	Drivers (% in brackets)	
	Eggs	Chicken
There isn't much difference in price	272 (13)	119 (8)
I think it's important that animals are treated as humanely as possible	1519 (75)	1166 (74)
The taste is better	998 (49)	927 (59)
It makes me feel good to think that I have helped an animal have a better life	952 (47)	752 (48)
My family like me to buy higher welfare products	193 (10)	181 (12)
I buy the same products out of habit	149 (7)	118 (8)
Government standard welfare levels do not go far enough	377 (19)	319 (20)
Other / None of the above	47 (2)	43 (3)

Note: this was only an option for those who claimed to seek free range eggs or chicken including those who claimed that they wanted to do it more.

Barriers by importance of issue

The main barrier is price, followed by habitual shopping and not thinking there will be much difference to the taste. Barriers to purchasing free range chicken are very similar to those of eggs. Price is the most dominant barrier followed by habit and taste.

Table 17. Barriers by importance of issue

Percentage respondents who selected each barrier.	Barriers to free range eggs		Barriers to free range chicken	
	Very important & important	Not very important, not important, neither	Very important & important	Not very important, not important, neither
Too expensive for my budget	55	61	55	60
How animals are reared is not important	1	3	1	5
There is no benefit in the taste	18	18	12	16
It is too much of an inconvenience to find	4	4	6	5
Not an option where I shop	4	2	6	2
I buy the same products out of habit	21	20	20	22
The Government standard for animal welfare is enough	10	8	8	9
Other / None of the above	6	7	6	7

Note this was only an option for those who do not claim to seek free range eggs or chicken or want to do it more. I.e. those who answered 'I haven't given this any thought', I don't want to do this', 'I am thinking about doing this' and 'I have done this before but am no longer doing this' as shown in table 11. Those answering 'I am doing this but not as much as I'd like' were able to answer both barrier and driver options but they are not included in this analysis of the barriers.

Drivers by importance of issue

Those who placed importance upon meat and eggs being produced to high animal welfare standards are driven by wanting to ensure animals are treated well, feeling better about themselves and also taste. Those who place less importance on animal welfare are driven by taste and wanting to ensure animals are treated well. Interestingly people who don't place importance on animal welfare are more likely to say that lack of large price difference is a driver for buying free range eggs.

Drivers for free range chicken are similar to drivers for free range eggs, ensuring animals are treated humanely, that the taste is good and feeling better about purchases are all big drivers, all more so for those who believe animal welfare is important.

Table 18. Drivers by importance of issue

Percentage of respondents asked who selected each driver.	Drivers for free range eggs		Drivers for free range chicken	
	Very important & important	Not very important, not important, neither	Very important & important	Not very important, not important, neither
There isn't much difference in price	13	20	7	9
I think it's important that animals are treated as humanely as possible	79	39	78	35
The taste is better	49	51	59	58
It makes me feel good to think that I have helped an animal have a better life	49	28	50	27
My family like me to buy higher welfare products	10	4	12	6
I buy the same products out of habit	7	11	7	18
Government standard welfare levels do not go far enough	20	4	22	4
Other / None of the above	2	7	2	6

Note: only respondents who answered the seeking question with 'I am doing this' or 'I am doing this but not as much as I'd like' were asked the driver questions.

The above analysis gives a flavour of the data but didn't use all of the attitudinal data. A more sophisticated approach that encapsulates all of the attitudinal questions is segmentation analysis.

4. Animal Welfare Segmentation analysis

Segmentation analysis was chosen as a means of distilling down the large volume of data to form groups of the population that are defined by their attitude, behaviour and demographics. We used multivariate statistical techniques to examine all of the attitudinal questions and some of the key behavioural information simultaneously. The aim was to find groups or clusters of households that exhibit similar patterns. These clusters are called segments and form a segmentation of the population. This was seen as an easy to understand way to present key messages about groups of people's attitudes and behaviours.

The analysis involved several stages and only the final output is shown here. Annex 1 shows fuller details of the steps taken.

The segmentation analysis was undertaken using binary data. That is, respondents are categorised as answering yes or no to each of a set of questions. Some responses had to be converted into binary with a consequent loss of information. This was kept to a minimum by choosing boundaries that split the responses into meaningful and similarly sized groups. In particular the purchasing behaviour data was reduced to binary:

- Free range eggs – whether respondents purchased over 50% of free range eggs or not. This was determined as a sensible cut off point through looking at the purchase data, anyone scoring positively to this would have to purchase more free range eggs than the average in the survey.
- Free range chicken – whether respondents purchased over 10% of free range chicken or not. The cut off point is lower to reflect the fact that less free range chicken is purchased.

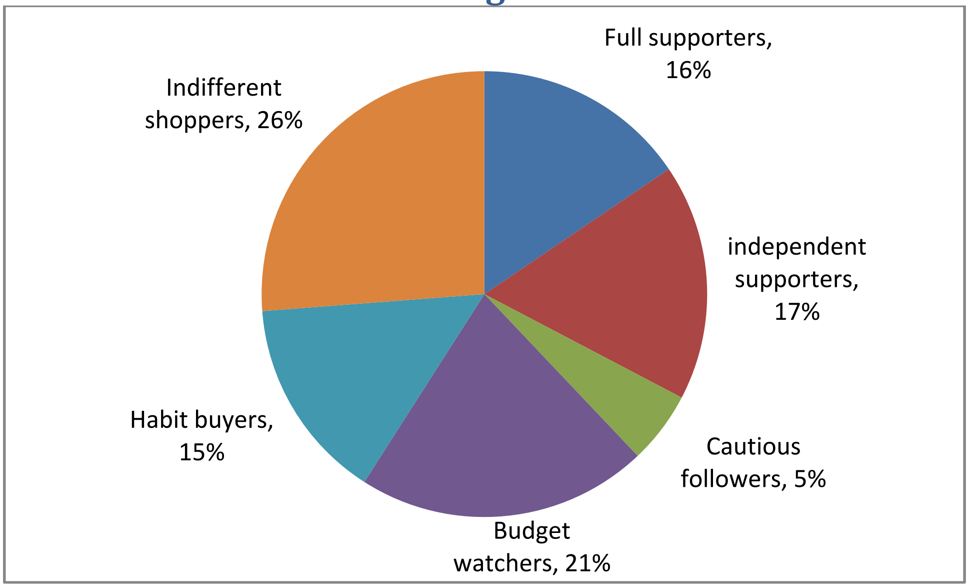
Reducing these data items to binary results in a loss of information but considerably simplifies the analysis. The software used to process the work was Latent Analysis Model Interface (LAMI). Many questions were used in the analysis, though not all, for example price paid and main shop.

4.1. Six Segments for Animal Welfare

The animal welfare segmentation analysis split the respondents into 6 separate segments:

1. **Full supporters:** Buys free range, good understanding, rates issue important
2. **Independent supporters:** Similar to 'Full supporters' but don't feel as strongly or purchase as much.
3. **Cautious followers:** Buys some free range but unsure about the ethics
4. **Budget watchers:** Animal welfare is important but can't afford to buy free range
5. **Habit buyers:** Can afford to buy free range but not in the habit of doing so
6. **Indifferent shoppers:** Is not concerned about animal welfare and buys little free range

Table 19. Animal Welfare Segmentation



The way of allocating households to segments is necessarily complex given that it uses most of the information in the questionnaire and also the behaviour data. To get an impression of the characteristics of each segment we show in Table 20 the posterior probabilities of having given or achieved a positive response to each of the questions depending on the segment. The colour coding draws attention to high chance of positive response (green tones) and low chance of positive response (red tones) compared to the average response. These probabilities can equally well be viewed as percentages by multiplying by 100.

As expected, Full Supporters achieved the highest purchase rate for both free range eggs and free range chicken. There are occurrences of probabilities of 1.0 in Table 20 indicating that all members of the segment responded positively to the question. It is interesting to note that budget watchers achieved the lowest percentage (twelve per cent) of members purchasing over 50% of their eggs as free range.

For importance and understanding Table 20 shows that Full Supporters and Independent Supporters have high levels whereas indifferent shoppers and cautious followers have low levels.
For barriers and drivers Table 20 also shows that Full Supporters are driven by how animals are reared while budget watchers are distinct from all other groups in their concern over price.
The responses to approach to shopping were relatively uninformative as evidenced by the lack of reds and green tones in that section of Table 20.

Demographics were restricted to ‘vegetarian in the family’ and annual income over £20,000. Habit Buyers and Cautious Followers are less likely to be vegetarian. Income makes little difference. The intention was to find a segmentation that would split the sample on attitudes and behaviour. If more demographics were added then we found that the resulting segmentations did not split on attitudes and behaviours, but on demographics. Further analysis of the demographic makeup of each segment follows.

Table 20. Posterior Probabilities of positive response

Purchasing Behaviour	Full supporters	independent supporters	Cautious followers	Budget watchers	Habit buyers	Indifferent shoppers
Over 10% Free range chicken	0.41	0.33	0.12	0.18	0.12	0.05
Above average amount of chicken	0.36	0.35	0.35	0.42	0.34	0.36
Over 50% Free range eggs	0.85	0.79	0.56	0.12	0.30	0.22
Above average number of eggs	0.37	0.35	0.27	0.49	0.39	0.35
Importance and Understanding						
Importance of whether meat and eggs have been produced to high animal welfare standards	1.00	0.95	0.56	0.90	0.92	0.32
Free range products have higher welfare standards	0.98	0.93	0.42	0.85	0.75	0.35
I don't know how to tell if a product meets high animal welfare standards	0.37	0.33	0.38	0.53	0.56	0.48
Retailers should ensure they only sell products that have higher animal welfare	0.94	0.75	0.22	0.77	0.75	0.24
I think that higher value ranges in supermarkets, such as 'taste the difference' or 'finest' have higher animal welfare standards	0.34	0.31	0.08	0.24	0.29	0.07
I have a good understanding of the issues surrounding animal welfare	0.75	0.56	0.15	0.42	0.42	0.14
Demographics						
Vegetarian in the household	0.06	0.06	0.01	0.03	0.01	0.03
Income over £20000 pa	0.56	0.68	0.65	0.56	0.57	0.58

Table 20 is continued…

Table 21. Table continued: Posterior Probabilities of positive response

Barriers and Drivers	Full supporters	independent supporters	Cautious followers	Budget watchers	Habit buyers	Indifferent shoppers
I am seeking free range chicken but not as much as I'd like	0.16	0.14	0.46	0.71	0.46	0.09
There isn't much difference in price	0.15	0.08	0.15	0.07		
I think it's important that animals are treated as humanely as possible	0.99	0.73	0.28	0.73		
The taste is better	0.66	0.56	0.61	0.41		
It makes me feel good to think that I have helped an animal have a better life	0.75	0.35	0.19	0.48		
My family like me to buy higher welfare products	0.29	0.05	0.00	0.06		
I buy the same products out of habit	0.06	0.04	0.15	0.09		
Government standard welfare levels do not go far enough	0.49	0.07	0.02	0.16		
Too expensive for my budget				0.96	0.41	0.58
How animals are reared is not important				0.00	0.02	0.03
There is no benefit in the taste				0.03	0.18	0.20
It is too much of an inconvenience to find				0.01	0.09	0.03
Not an option where I shop				0.01	0.10	0.02
I buy the same products out of habit				0.05	0.33	0.28
The Government standard for animal welfare is enough				0.01	0.12	0.11
Approach to Shopping						
The particular food needs / wants of others in the household	0.70	0.53	0.52	0.70	0.63	0.55
Any special offers that week	0.86	0.71	0.78	0.92	0.80	0.81
Buying the best quality food	0.70	0.50	0.35	0.42	0.54	0.23
Trying to get the cheapest food I can	0.24	0.14	0.24	0.43	0.19	0.44
What I need to stock up on	0.90	0.72	0.76	0.89	0.88	0.81
Ingredients for specific meals	0.76	0.66	0.60	0.72	0.66	0.49
Whether I can use products by the use-by-date	0.62	0.41	0.39	0.60	0.51	0.42

Dark amber:	Very low response compared to the average.
Light amber:	Low response compared to the average.
Light green:	High response compared to the average.
Dark Green:	Very high response compared to the average.

Description of the animal welfare segments

The segments were chosen to form groups of the population who exhibited similar characteristics for the criteria in the rows of table 20. The behaviour questions were critically important given the objective of the project to link attitudes to behaviours. Therefore it is important to be aware that behaviour is only measured for a respondent as being above or below a threshold of 50% of purchases for free range eggs and 10% of purchases for free range chicken. It was essential that the segmentation would divide the population into groups exhibiting different purchasing behaviour, and this was achieved. The colour coding identifies the more extreme differences which define the main characteristics of each of the segments.

Full Supporters

Full Supporters have been identified as those that all rate animal welfare as an important issue and seek high welfare products. Almost all think free range products have higher animal welfare standards and most think retailers should only sell high animal welfare products. They are likely to cite a range of drivers most important being to treat animals as humanely as possible. They were the only group to say that they are influenced by their family wanting high welfare standards and that they were more driven by the needs of others in the family. They were the highest scoring group for claiming to seek best quality foods. Their income levels were no more than other groups, if anything a little lower. They were the top achievers of free range products with 85% of them achieving over half their eggs as free range and 41% achieving our over ten per cent free range chicken. This group comprises 16% of households surveyed.

Independent Supporters

This group purchase high levels of free range products with seventy nine per cent achieving over half their eggs as free range. They are the group least likely to claim price is an issue. They don't have any clear drivers, and certainly not habit or wanting government standards to be raised. They rate animal welfare as important and tend to have a good understanding of the issues. This group comprises 17% of households surveyed.

Habit Buyers

Habit Buyers are characterised by being the group most likely to cite habit as a barrier. They are also likely to cite most other barriers including price. They are the group most likely to cite 'not an option' and 'inconvenient to find' as barriers. They see animal welfare as an important issue and think retailers should take responsibility. They buy low levels of free range produce with only thirty per cent achieving over half their eggs as free range. This group comprises 15% of households surveyed.

Budget Watchers

Budget Watchers have been identified as those who are almost entirely driven by price as a barrier. Price barrier is mentioned by 96% of them for both free range chicken and free range eggs, and 92% claim to be always looking for special offers. They score the lowest of all the groups on all other barriers. Budget Watchers rate animal welfare as important and believe that free range products have higher welfare standards. They also think that retailers should only sell high welfare products. They buy the least free range eggs of all groups with only twelve per cent of them buying over half their eggs as free range. 71% of the group would like to seek more free range produce. This group comprises 21% of households surveyed.

Cautious Followers

Cautious Followers claim to actively seek free range although many would like to buy more, but it does not make them feel good to buy free range. Over half buy more than 50% of their eggs as free range and twelve per cent buy more than 10% of their chicken as free range. The largest driver for this group is taste. They are relatively unconcerned about treating animals as humanely as possible and they do not think government standards should be raised. In general they don't claim to have a good understanding of the issues. This is the smallest segment comprising 5% of households surveyed.

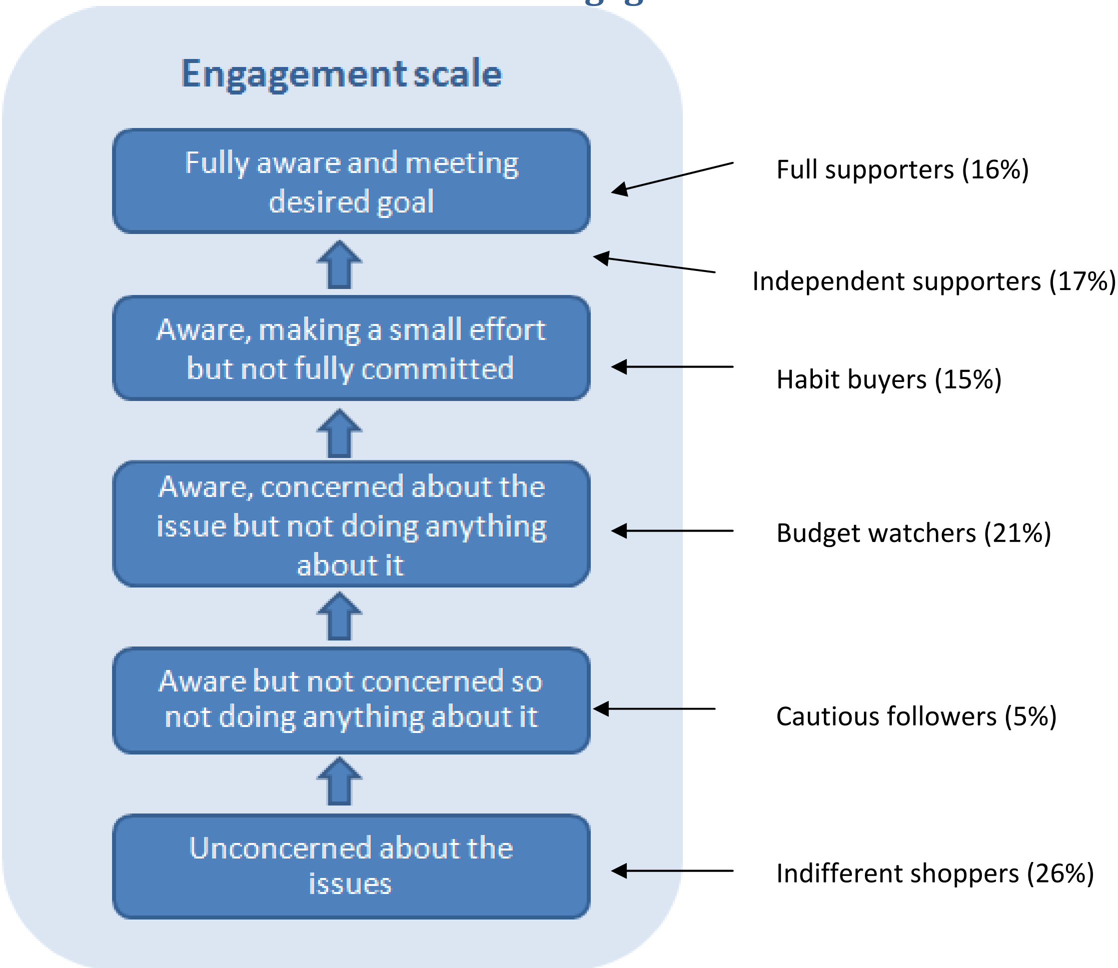
Indifferent Shoppers

Indifferent Shoppers are characterised by not rating animal welfare as an important issue and by not wanting to buy more free range eggs or chicken. Their responses to the questions suggest a low understanding of the issues and they are the lowest buyers of free range chicken, 5% achieving over ten per cent free range chicken, and second lowest for free range eggs, 22% achieving over half free range eggs.

4.2. Engagement Scale

Having identified 6 separate segments, we would like to place these segments on the engagement scale that is outlined in the Introduction in Table 3. This is a subjective matter and its value lies in how much it helps to understand the segments. It needs to be borne in mind that the behaviour threshold used to distinguish households for eggs was 50% or more purchases as free range and for chicken it was 10% or more purchases as free range.

Table 22. Animal Welfare Engagement Scale



The 6 identified segments have been placed on the engagement scale. Full Supporters and Independent Supporters could be viewed as being engaged with the issues giving an estimated 33% of the population as engaged. At the other end Indifferent Shoppers, an estimated 25% of the population, are not engaged with the issues of animal welfare.

Cautious Followers, only 5% of the population, are near the bottom of the scale because of a lack of understanding of the issues, although they are driven by taste to purchase some free range products.

Budget Watchers and Habit Buyers, making 36% of the population, have good awareness and understanding of the issues of animal welfare but have barriers to purchasing free range products.

The table below highlights the main characteristics of each segment which should help explain why each segment is where it is on the engagement scale.

Table 23. Characteristics of the Animal Welfare Segments

Segment	Understand the issues	Is animal welfare important?	Do you want to do more?	Behaviour matches target?	Main Barrier
Full supporters	Yes	Yes	n/a	Yes	No barriers
Independent supporters	A little	Yes	n/a	A little	Not full understanding
Cautious followers	No	No	A little	Low	Poor understanding
Habit buyers	Yes	Yes	Yes	No	Habit + others
Budget watchers	Yes	Yes	Yes	No	Price
Indifferent shoppers	No	No	No	No	Low quality acceptance

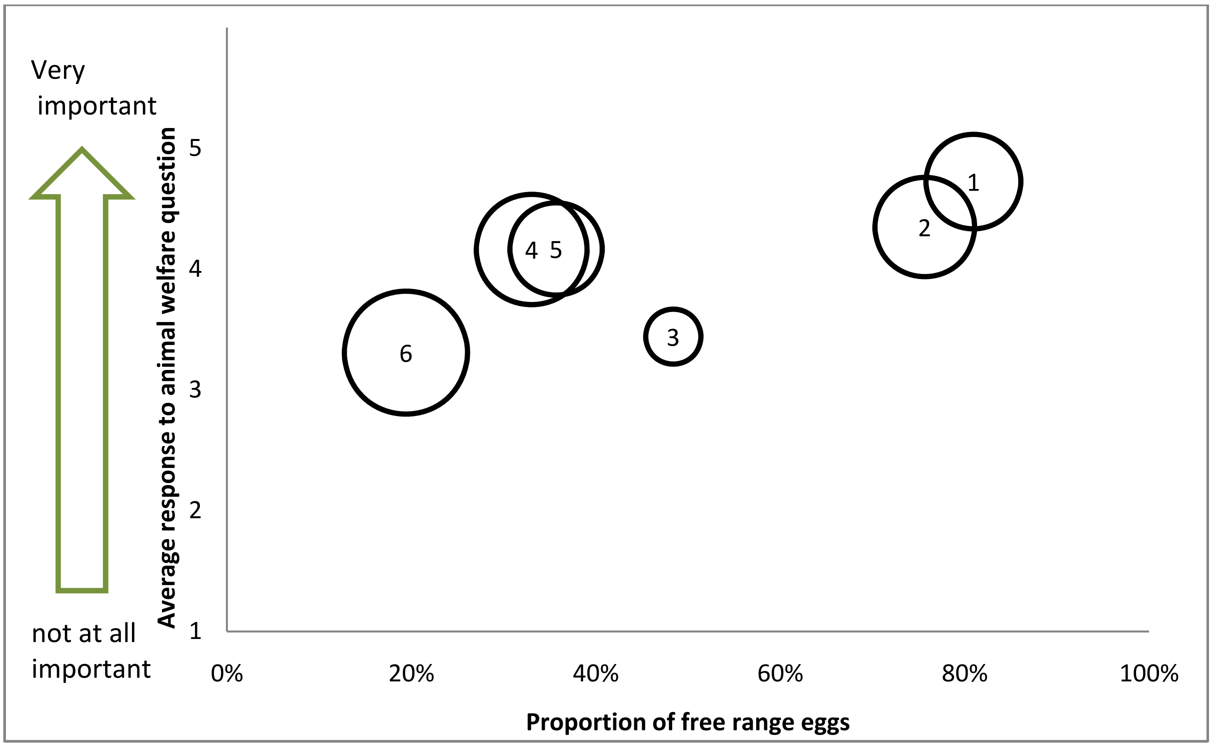
4.3. Behaviour versus Level of Concern

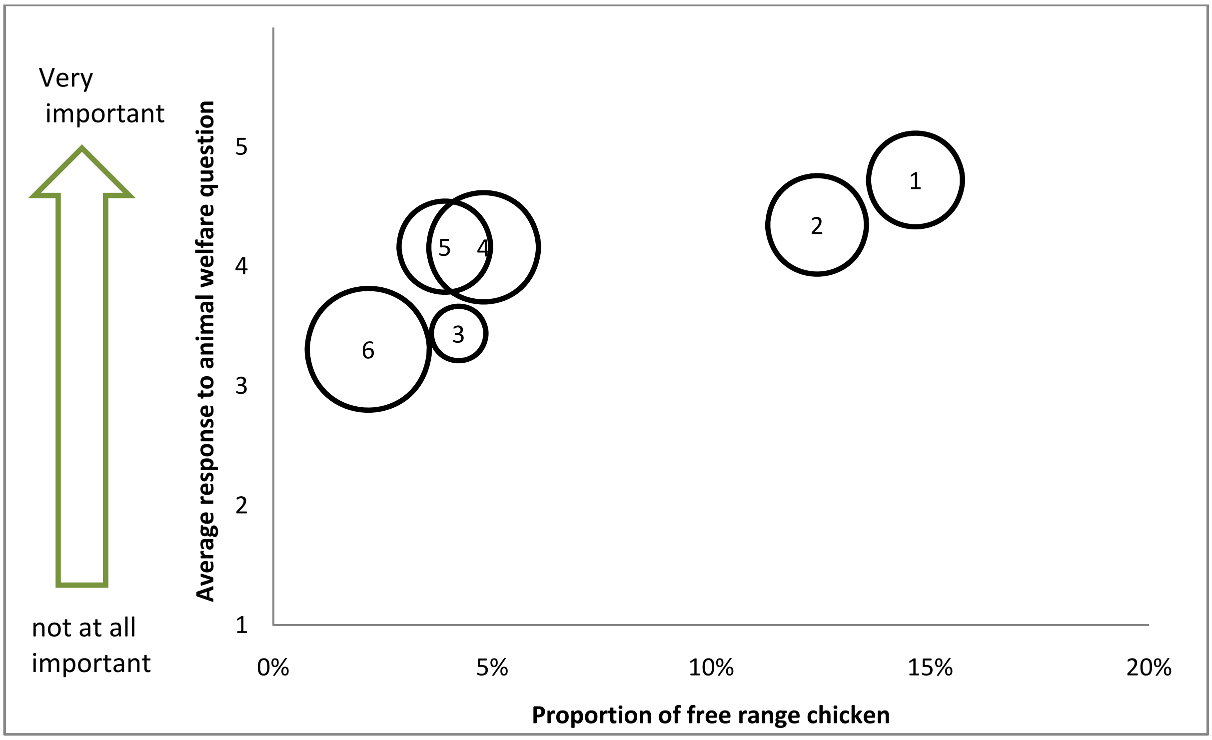
Another way to investigate if those who claim animal welfare is important are actually putting this into practise through purchases is to look at a graph of these two variables. Each of the 6 segments are placed on the graphs below which show the proportion of free range eggs or chicken bought against the average answer to the question ‘Is it important whether meat and eggs have been produced to high animal welfare standards’. 5 is ‘Very important’ and 1 ‘Not at all important’ for each class. The area of the bubbles represents the size of the segments group 3 being the smallest and group 6 the largest.

Table 22 shows behaviour versus level of concern for free range eggs for free range chickens. The graphs show that those groups that place higher importance on animal welfare tend to buy more free range products.

- Group 1 (Full supporters) are at the top with the highest proportion of free range purchases and the most importance attached to animal welfare.
- Group 2 (Independent supporters) are just below group 1.
- Group 3 (Cautious followers) give a relatively low importance to animal welfare but a fairly high level of free range purchases.
- Groups 4 and 5 (Budget watchers and Habit buyers) occupy the same area on the graphs which means they give the same level of importance to animal welfare and purchase the same proportion of free-range products. They are distinguished elsewhere in our analysis by different barriers.
- Group 6 (Indifferent shoppers) has the lowest proportion of free range purchases and attaches the lowest level of importance to animal welfare.

Table 24. Behaviour versus Concern for Animal Welfare





1 Full supporters
2 independent supporters
3 Cautious followers
4 Budget watchers
5 Habit buyers
6 Indifferent shoppers

4.4. Animal Welfare Demographics

Knowing the attitudes and purchasing patterns of each of the segments goes some way to identifying the type of shopper in each. However, looking at the demographic make-up of each group can further improve our understanding of people's motives. Full details are in annex 2.

Table 25. Employment Status

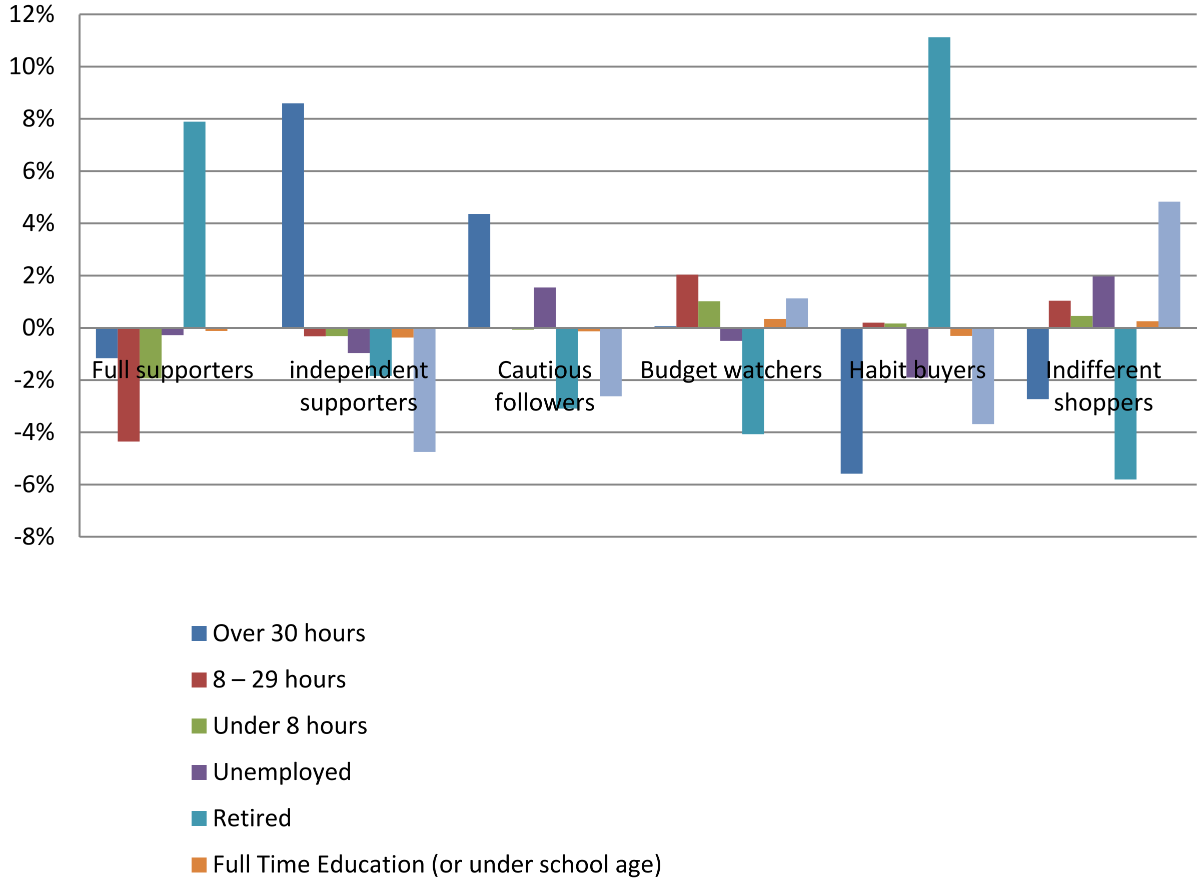


Table 24 shows how employment status varies with segment membership. It does this by showing the deviations from the average rate in the population.

- Habit Buyers tend to be retired, about 11 percentage points above the sample average of 30%.
- Full Supporters also tend to be retired.
- Independent Supporters tend to be in full time work.

Other strong demographic correlations are:

Age

- Habit Buyers are likely to be over 60 years old
- Full Supporters have a tendency to be over 60 years old
- Cautious Followers tend to be in their thirties
- Indifferent Shoppers are more likely to be younger than fifty

Gender

- Full Supporters, Independent Supporters and Budget Watchers are more likely to be female
- Cautious Followers, Indifferent Shoppers and Habit Buyers are more likely to be male

Region

- Habit Buyers and Cautious Followers exhibit regional differences, both being more prominent than average in Scotland, Lancashire, Wales and West.

Household composition

- Households with no children have a tendency towards being full supporters or Habit Buyers and not being Indifferent Shoppers.
- Single adult households are more likely than average to be Cautious Followers.

There are a few strong correlations between the animal welfare segmentation and the Defra pro-environmental segmentation (see Section 9). To a large extent those who were classed as cautious followers and indifferent shoppers in terms of animal welfare tend to be honestly disengaged in terms of the Defra pro-environmental segmentation.

- Full Supporters are often positive greens and not honestly disengaged
- Cautious Followers and indifferent shoppers tend to be honestly disengaged
- There is a positive link between Independent Supporters and concerned consumers
- Budget Watchers and Habit Buyers come from a cross section of the pro-environment groups.

There is a strong link between Indifferent Shoppers and social classes D and E and the honestly disengaged group in the Defra pro-environmental model.

4.5. Discussion of Animal Welfare

The link between attitudes and behaviours has enabled us to place households on an engagement scale showing that 16% (Full Supporters) are thoroughly engaged with another 17% (Independent Supporters) not far behind. This gives an estimated one third of the population engaged with animal welfare. This does not mean that they have fully achieved sustainability in their food purchasing but it does mean that they are engaged with the issue and converting this into action in terms of food purchasing.

At the bottom end of the scale 26% (Indifferent Shoppers) can be thought of as unengaged with animal welfare.

Another 5% (Cautious Followers) score animal welfare relatively low in importance but driven by taste buy some free range products.

In the middle are two segments with strong barriers. Some 21% of the population are almost entirely blocked by price while another 15% (Habit Buyers) are blocked by a wide range of barriers.

In very general terms, segmentation analysis on animal welfare attitudes and behaviours has revealed that one third of people are engaged with animal welfare (positive attitudes and behaviours) while another third are unengaged and the remaining one third are affected by barriers (positive attitude but poor behaviour).

5. British seasonal fruit and vegetables

One element of eating sustainably involves eating foods that are in season where they were grown. Eating food that is in season tends to cost less as production and distribution costs are lower. Seasonality also relates to produce grown overseas and imported to the UK, complementing the UK growing season.

We decided it was important to try and capture this in some way. Ideally the project would encapsulate all fruit and vegetables and differences in growing seasons in different countries, but this was not practical. To enable sensible results without calculating which foods were in season in each part of the world at any given time only British fruit and vegetables were chosen.

Kantar are able to determine if apples, pears, strawberries or potatoes were grown in the United Kingdom. These are the foods tracked in the purchasing behaviours. This analysis focuses on apples and strawberries. For the seeking questions, determining respondent's views, we asked about overall opinion on trying to buy seasonal British food.

5.1. Attitudes

Whether a food item is British and in season is rated quite important by 48% of the sample and very important by 19% of the sample. Its importance is comparable to that for sustainable fish, environmental issues and ethical issues, but it has lower importance than animal welfare and healthiness.

Questions were asked to elicit a broad level of understanding of and approach to the issue. Table 24 shows the responses, 77% strongly agree or tend to agree that they try to support British producers but only 45% strongly agree or tend to agree that they trust retailers to sell as much British produce as possible, indicating a lack of trust in retailers. 83% strongly agree or tend to agree that eating local seasonal food is good for the environment, but only 61% strongly agree or tend to agree that they have a good understanding of the issues surrounding buying local/seasonal food. All of the attitudes questions are listed in Annex 3. Key findings are shown below.

Table 26. Understanding of seasonal purchasing

	Results (% in brackets)				
	Strong agree	Tend agree	Neither	Tend disagree	Disagree
Where possible I try to support British producers	877 (28)	1517 (49)	619 (20)	98 (3)	12 (0)
I trust retailers to make sure that they sell as much British produce as possible	291 (9)	1101 (35)	1116 (36)	538 (17)	77 (2)
It's better for the environment to eat local fruit and vegetables grown in season	1111 (36)	1471 (47)	491 (16)	43 (1)	7 (0)
I have a good understanding of the issues surrounding buying local / seasonal produce	531 (17)	1362 (44)	986 (32)	227 (7)	17 (1)

5.2. Actively Seeking

Respondents were asked if they actively seek to buy British fruit and vegetables when in season. The scope was limited to British produce because we will be comparing with their behaviours in terms of British produce. In fact for this preliminary analysis we only examine purchases of apples and strawberries, but the actively seeking question is about all British fruit and vegetables.

Table 27. Do respondents actively seek to buy British seasonal produce when buying fruit and vegetables?

	Results (% in brackets)						
	I haven't given this any thought	I don't want to do this	I am thinking about doing this	I am doing this	I am doing this but not as much as I'd like	I have done this before but I am no longer doing it	Not applicable – I don't buy this food item
Seek British	582 (19)	52 (2)	218 (7)	1088 (35)	1155 (37)	28 (1)	0

Nearly three quarters of people claim to be seeking to buy in season fruit and vegetables; 35% actively seek British seasonal fruit and vegetables while another 37% are doing this but would like to do it more. The remaining 28% do not seek British seasonal fruit and vegetables. The main barriers are: wanting a wide choice, 38%, too expensive, 31% and habit, 25% (see table 28).

5.3. Behaviours

We have purchase data for apples, pears, strawberries and potatoes. Data shows whether the item is British or not. To calculate when the items were in season, we consulted the Government consumer orientated website eatseasonably.co.uk which gives approximate seasons. For Cox and Bramley apples this is July – October. For strawberries this is June – August. There is no indication given for pears and only the main crop potato season is referred to, not new potatoes. Only apples and strawberries are analysed in this report. Behaviour data from Kantar is collected in 4 weekly blocks so the months may not completely represent the seasons stated above.

When in season in Britain, respondents buy British apples 18% of the time and British strawberries 72% of the time. The table below shows the frequency distribution of these purchases. Apples have a poor 'British seasonal' take up with well over half (63%) buying British less than 10% of the time.. When in season in Britain over half the respondents buy between 90-100% British strawberries indicating a good take up of consumers wanting to buy those that are British and in season. One driver for strawberries is that supermarkets tend to promote British strawberries and stock these in plentiful supply. This is one area where the supermarkets can have huge influential power.

Table 28. Purchases of apples and strawberries

Apples (Mid July - October)			Strawberries (Mid June - September)		
% British apples purchased	Number of households	Percentage	% British strawberries purchased	Number of households	Percentage
0 - 10	1417	62	0 - 10	264	14
10 - 20	151	7	10 - 20	23	1
20 - 30	143	6	20 - 30	45	2
30 - 40	108	5	30 - 40	65	3
40 - 50	119	5	40 - 50	108	6

50 - 60	71	3
60 - 70	71	3
70 - 80	30	1
80 - 90	18	1
90 - 100	153	7
Total	**2281**	**100**

50 - 60	93	5
60 - 70	115	6
70 - 80	121	6
80 - 90	112	6
90 - 100	999	51
Total	**1945**	**100**

5.4. Linking attitudes and behaviours

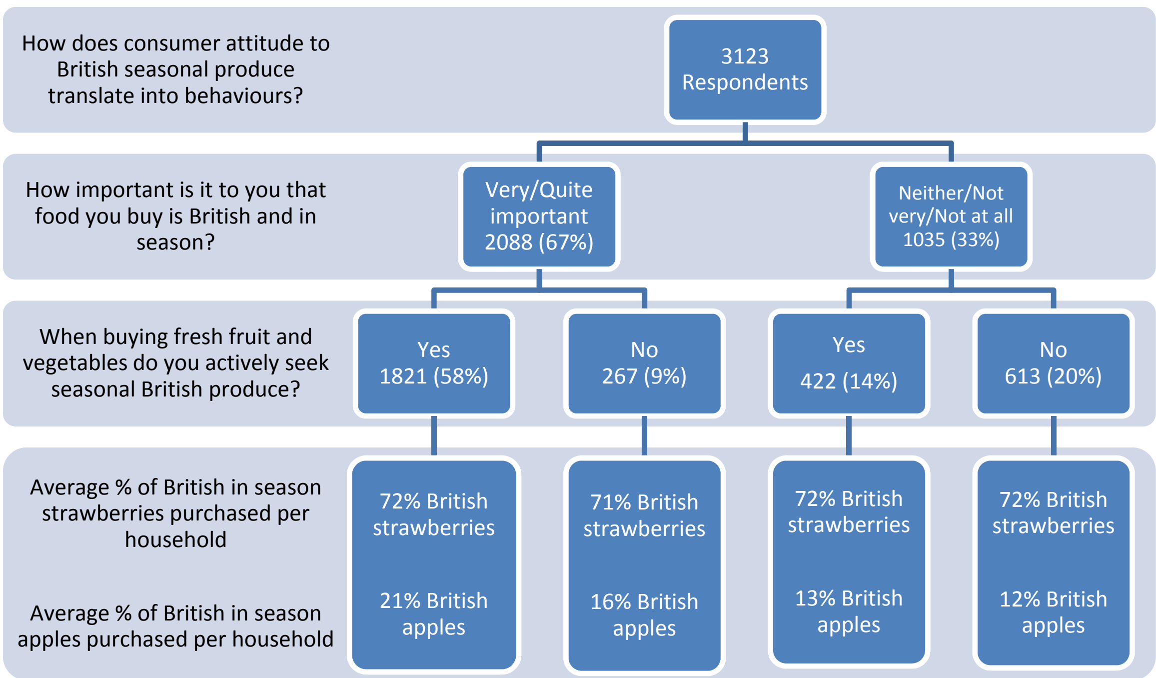
The flow diagram below brings together the attitudes and behaviours data and splits out respondents depending on how they answered the following questions.

- when shopping, how important is it to you whether the food item is British and in season?
- when shopping for fruit and vegetables do you actively seek seasonal British produce?

We then calculated the average percentage of British seasonal apples and strawberries purchased in these groups. The results are shown in the diagram below revealing that although over 70% of strawberries purchased are British there is little if any difference in behaviour regardless of how important the issue is to the consumer or whether they claim to seek British.

For apples, it does make a difference if the consumer considers the issue important and they actively seek. This group achieved 21% British apples during the peak season for apples in Britain. Those less concerned achieved 12% to 13% regardless of whether they claim to seek to buy British seasonal produce. This could reflect that they are just buying apples from whatever country that is available.

Table 29. Attitudes and Behaviours to Buying in Season



Actively seeking and rating the issue as important was the key determinant to higher purchases of British seasonal apples. Fifty eight per cent of households say that buying British in season is important and claim to actively seek seasonal British produce. This group bought the proportionally the most British apples than other groups, achieving 21% of purchases as British in season. This group did not have higher purchasing percentages of strawberries than the other groups.

There appears to be no link between purchases of British in season strawberries and whether people claim to actively seek seasonal British produce. This suggests that strawberries are not seen as important in this context, possibly because there is very high availability of reasonably priced British strawberries. Further work into out of season purchasing of strawberries could shed more light.

Fourteen per cent of household claim to actively seek British seasonal produce yet don't rate the issue as important. This group did not purchase a much different percentage of British apples and strawberries than those who do not claim to actively seek.

5.5. Barrier and Driver questions

The main barriers to buying seasonal fruit and vegetables are that it is too expensive, cited by 31% of those not actively seeking to buy, and wanting a wide choice, cited by 38% of those not actively seeking to buy.

Table 30. Barriers to buying in season

	Barriers (% in brackets)
It is too expensive for my budget	641 (31)
It is inconvenient to check the origin / seasonality of products	291 (14)
I don't know what fruit and vegetables are in season	336 (17)
I want a wide choice of fruit and vegetables	773 (38)
I don't like the taste	9 (0)
I don't care where it was produced so long as it's affordable	381 (19)
I buy the same fruit and vegetables out of habit	516 (25)
My shop does not supply country of origin information	95 (5)
Other / None of the above	215 (11)

The main drivers to buying seasonal fruit and vegetables are wanting to eat according to the seasons, cited by 66% of those actively seeking, and better taste cited by 46% of those actively seeking, and happy to support British farmers, cited by 31% or those actively seeking. Only 11% of those actively seeking said it was cheaper to buy in season.

Table 31. Drivers of buying in season

	Drivers (% in brackets)
It is cheap	252 (11)
It's easy to check origin / seasonality of fruit and vegetables when shopping	753 (34)
I know which local fruit and vegetables are in season	977 (44)
I am happy to eat fruit and vegetables according to the seasons	1487 (66)
It tastes better	1038 (46)
I am happy to pay more to support local/British producers	706 (31)
Other / None of the above	86 (4)

We now look at how the barriers and drivers differ among the four groups defined by importance of the issue and actively seeking to buy. As expected, few people consider taste to be a barrier which fits with the perception of seasonal food tasting better. The barrier showing most difference is not caring where it was produced as long as it is affordable, this is showing that for those who don't rate the issue as important price is relatively more important than locality. Otherwise there is little dependence on importance of the issue.

Although taste is not a barrier it is a strong driver for those who see the issue as important. Drivers are generally more important than barriers for buying British seasonal produce. Those who see the issue as important are likely to claim: good understanding of what to buy, better taste, willingness to change their diet according to the season, and desire to support the British farmer.

Table 32. Barriers and drivers of British seasonal produce depending on attitude

	important issue		not important issue	
	seeking	not seeking	seeking	not seeking
% of sample	58	9	14	20
Barriers				
It is too expensive for my budget		26		28
It is inconvenient to check the origin / seasonality of products		18		19
I don't know what fruit and vegetables are in season		23		24
I want a wide choice of fruit and vegetables		37		32
I don't like the taste		0		1
I don't care where it was produced so long as it's affordable		17		38
I buy the same fruit and vegetables out of habit		28		25
Other / None of the above		6		7
Drivers				
It is cheap	10		18	
It's easy to check origin / seasonality of fruit and vegetables when shopping	35		29	
I know which local fruit and vegetables are in season	47		29	
I am happy to eat fruit and vegetables according to the seasons (e.g. salads in the summer and root vegetables in the winter)	68		57	
It tastes better	50		31	
I am happy to pay more to support local/British producers	36		12	
Other / None of the above	3		9	

The people surveyed are split between the four columns depending on their responses to the importance question and the actively seek question. Those actively seeking were asked drivers questions. Those not actively seeking were asked barrier questions.

Other research by Defra[3] found that consumers identified cost and accessibility as major barriers to consuming seasonal and local foods. There was a perception that a seasonal diet would offer limited choice due to changes in availability. Lack of knowledge about what was in season and when also prevented some consumers from shopping seasonally. The main drivers for consuming seasonal foods were taste and freshness.

[3] Understanding the Environmental Impacts of Consuming Foods that are Produced Locally in Season

6. Ethical produce

Ethical trading is one way consumers can support sustainable food consumption and ensure that producers in developing countries are not being exploited in the quest for affordable food. To asses this, we chose to focus on Fairtrade products. This is due in part to the brand being very recognisable and that Kantar capture in the scanned barcodes whether a food item carries the Fairtrade logo. This allows us to make comparisons between products with an ethical logo and those without and see how good consumers are behaving in terms of actual purchases.

Tea and coffee were chosen as the products because they are widely consumed with Fairtrade label widely available, and have a high profile (Fairtrade drinks are often used in marketing coffee shops for example) so relatively easy for consumers to make this choice.

6.1. Structure of Questions

Questions on general attitudes and understanding on ethical produce were asked to establish how much the person cares and understands about ethical purchasing, then more detailed questions on approach to buying tea and coffee. Those who buy a lot of tea were asked the tea questions and not the coffee questions. Those who buy a lot of coffee were asked the coffee questions and not the tea questions. Kantar were able to examine people's purchases over the preceding twelve months in order to make this choice in the questioning. Those who did not show a strong purchasing preference for either were allocated a question at random.

Table 33. Understanding and knowledge

	Results (% in brackets)				
	Strong agree	Tend agree	Neither	Tend disagree	Disagree
Fairtrade products help producers in the developing world receive a fair price for their produce	839 (27)	1623 (52)	561 (18)	86 (3)	14 (0)
I think it is the responsibility of retailers to provide a wide variety of Fairtrade products	678 (22)	1620 (52)	741 (24)	69 (2)	15 (0)
I'm not concerned about the ethical issues surrounding food so long as it is affordable	108 (3)	414 (13)	1129 (36)	1093 (35)	379 (12)
I have a good understanding of the issues around Fairtrade products	292 (9)	1282 (41)	1223 (39)	298 (10)	28 (1)

The first question in table 31 gives us an insight into respondent understanding which is high, with 79% 'strongly agree' or 'tend to agree' that Fairtrade helps people in the developing world. There is strong feeling that retailers have a responsibility in this area with 74% of respondents saying they 'strongly agree' or 'tend to agree' that it is retailer's responsibility to provide ethical products.

6.2. Actively Seeking

According to the attitude survey 28% of people who buy a lot of tea actively seek to buy Fairtrade tea, while 30% of people who buy a lot of coffee actively seek to buy fairtrade coffee. However, a fair proportion of the population haven't given the Fairtrade issue any thought, 46% for tea and 40% for coffee.

Table 34. Actively seeking Fairtrade

	Results (% in brackets)						
	I haven't given this any thought	I don't want to do this	I am thinking about doing this	I am doing this	I am doing this but not as much as I'd like	I have done this before but I am no longer doing it	Not applicable – I don't buy this food item
Seek Fairtrade Tea	736 (46)	171 (11)	157 (10)	230 (14)	218 (14)	72 (5)	15 (1)
Seek Fairtrade Coffee	609 (40)	191 (13)	123 (8)	234 (15)	236 (15)	109 (7)	22 (1)

Overall 72% of tea drinkers do not actively seek fairtrade tea (46% haven't given it any thought), while 68% of coffee drinkers don't actively seek fairtrade coffee.

6.3. Behaviours

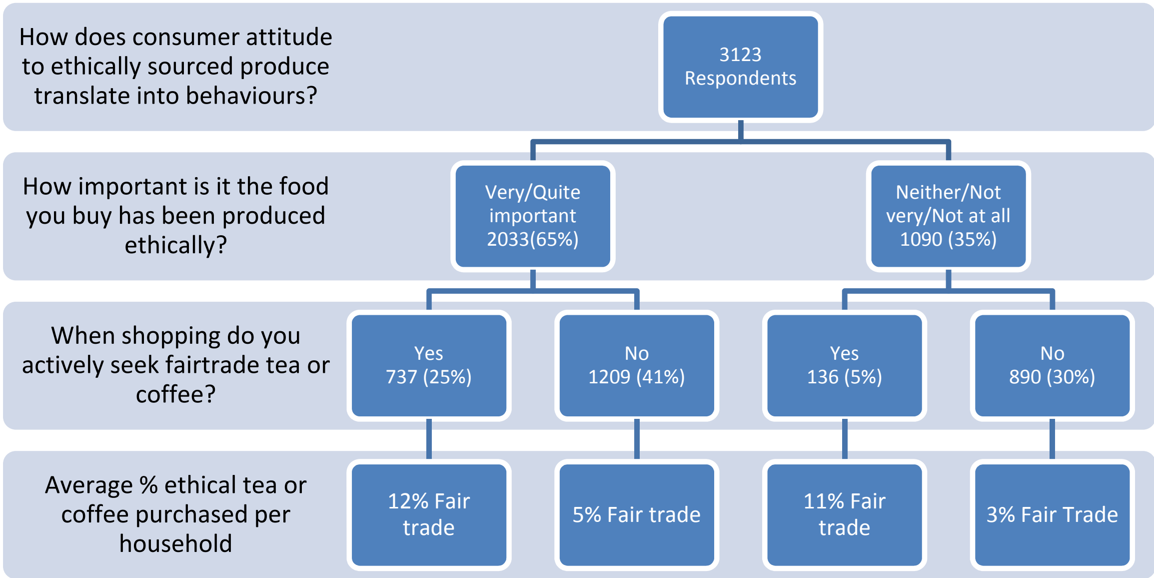
Although the seeking questions only ask about Fairtrade tea or coffee, data on purchases of Fairtrade bananas and chocolate was also obtained. The tables below show the frequency distribution of purchases of tea and coffee only.

Table 35. Behaviour summary

Fairtrade coffee				Fairtrade tea		
% Fairtrade coffee purchased	Number of households	Percentage		% Fairtrade tea purchased	Number of households	Percentage
0 - 10	2417	93		0 - 10	2355	85
10 - 20	53	2		10 - 20	99	4
20 - 30	22	1		20 - 30	58	2
30 - 40	13	1		30 - 40	45	2
40 - 50	17	1		40 - 50	44	2
50 - 60	5	0		50 - 60	28	1
60 - 70	10	0		60 - 70	22	1
70 - 80	4	0		70 - 80	24	1
80 - 90	4	0		80 - 90	25	1
90 - 100	42	2		90 - 100	83	3
Total	2587	100		Total	2783	100

Purchases of Fairtrade compared to non Fairtrade are low. Very few households buy 100% fairtrade tea or coffee. Although not analysed for this report more households (8% of respondents) buy 100% fair trade bananas. Further investigation would reveal the role that supermarket has on the amount of fair trade goods purchased with some supermarkets stocking only fairtrade bananas. Note that data on expenditure at each of the main supermarkets is available although not used in this analysis but could use this to analyse the role of the supermarkets in a further work.

Table 36. Attitudes and behaviours to buying ethical products



Thirty per cent of people claim to actively seek fairtrade tea and coffee, and claiming to actively seek is more important in determining behaviour than importance given to the issue. Five percent of the sample claim to actively seek fairtrade tea and coffee but don't rate the ethical production as an important issue. This group purchase almost as much fairtrade tea and coffee as the 25% who do rate the issue important and claim to actively seek.

The importance attached to ethically produced food is not a good indicator of how much fairtrade produce people buy. Of the two groups, those rating it as important to them and those who claimed it was not important, both performed similarly in terms of purchases when they actively seek Fairtrade.

Note that those who had no record of purchases of tea or coffee in the last twelve months were excluded from the actively seek analysis in the third and fourth rows of the table, 151 households.

6.4. Barriers and Drivers

The main barriers appears to be sticking to familiar brands out of habit with 55% of those not actively seeking citing this for tea and 50% citing this for coffee. Only about a quarter of those not actively seeking cite price as a barrier.

Table 37. Barriers to buying ethical

	Barriers (% in brackets)	
	Tea	Coffee
It is too expensive for my budget	355 (26)	358 (28)
It doesn't taste as good / There's no difference in taste	124 (9)	198 (16)
I am not interested in the issue of Fairtrade	54 (4)	65 (5)
It's not available where I shop	45 (3)	45 (4)
I tend to stick to brands I like out of habit	742 (55)	639 (50)
Other / None of the above	236 (17)	217 (17)

Overall 28% of tea drinkers actively seek fairtrade at least some of the time and 30% for coffee. The dominant driver is wanting to support producers in developing countries.

Table 38. Drivers for buying ethical

	Drivers (% in brackets)	
	Tea	Coffee
There isn't much difference in price	75 (17)	93 (20)
It tastes nicer	50 (11)	60 (13)
I want to support producers in developing countries	335 (75)	368 (78)
It's readily available where I shop	144 (32)	149 (32)
I tend to buy Fairtrade tea out of habit	45 (10)	56 (12)
Other / None of the above	31 (7)	34 (7)

70% of the sample answered the questions on barriers to buying fairtrade tea or coffee. The barriers appear to be the same whether or not one thinks the issue is important. The dominant barrier is habit or sticking with a favourite brand. Only 26% to 31% think price is a barrier.

Table 39. Barriers and drivers of Ethical produce depending on attitude

	important issue		not important	
	seeking	not seeking	seeking	not seeking
% of sample	25	41	5	30
Barriers				
It is too expensive for my budget		26		31
It doesn't taste as good / There's no difference in taste		14		11
I am not interested in the issue of fairtrade		2		10
It's not available where I shop		2		2
I tend to stick to brands I like out of habit		59		54
Other / None of the above		17		16
Drivers				
There isn't much difference in price	19		21	
It tastes nicer	12		14	
I want to support producers in developing countries	84		63	
It's readily available where I shop	35		28	
I tend to buy fair trade tea out of habit	12		10	
Other / None of the above	7		13	

The sample splits between the four columns depending on their responses to the importance question and the actively seek question. Those actively seeking were asked drivers questions. Those not actively seeking were asked barrier questions.

Thirty percent of people answered the drivers questions. We can note here that 136 or 5% of the sample did not rate the ethical issue as important or very important but still claimed to actively seek to buy fairtrade. The drivers appear to be similar whether or not one thinks the issue is important or not. Wanting to support producers in developing countries was by far the strongest driver. Good availability was cited as a driver by about a third while a fifth considered that there was little difference in price.

7. Healthy Food Purchasing

Healthy eating is important for a sustainable food system since diets low in nutritional value can lead to health complications and can put strain on the health service. 90% of people claim that healthy eating is important to them (Food Standards Agency, 2008) and public awareness of the health implications of diet is fairly high.

Diet-related chronic disease is estimated to cost the NHS £7 billion a year, including direct treatment costs, state benefits and loss of earnings. The health benefits of meeting nutritional guidelines are estimated to reach almost £20 billion a year, and are estimated to prevent 70,000 premature deaths a year (The Strategy Unit, July 2008).

Poor diet is estimated to account for a third of all cases of cancer, and a further third of cases of cardiovascular disease. Obesity, which has more than doubled in the last 25 years, increases the risk of developing Type II Diabetes, cardiovascular disease and some types of cancer. Left unchecked, projections show radical increases in the years ahead with 40% of the population being obese by 2025 and 60% by 2050 (Foresight, 2007).

The Family Food Survey provides trends in nutritional intakes and shows some positive changes in the average diet in the UK over the past 15 years, but we are still eating too much salt, saturated fatty acids, and sugar, and not enough fruit and vegetables.

This theme focuses on consumer attitudes and behaviours towards 5-a-day fruit and vegetable consumption as well as intake of salt and saturated fatty acids. The attitudes survey was used to glean information on consumer understanding, attitudes and anticipated behaviour. The purchases data was used to estimate actual 5-a-day fruit and vegetable consumption, and estimate nutrient intake of salt and fat.

7.1. Attitudes to healthy food

Attitude questions can be viewed in annex 3. Key preliminary findings are shown here.

From the general attitude questions, 81% of respondents report that when shopping it is either important or very important that the food they buy forms part of a healthy balanced diet (table 5). Along with animal welfare healthiness of food purchasing is considered the most important of the themes.

Table 40. Understanding of healthy food issues

	Results (% in brackets)				
	Strong agree	Tend agree	Neither	Tend disagree	Disagree
So long as I eat 5 portions of fruit and vegetables a day it doesn't matter about the rest of my diet	48 (2)	194 (6)	793 (25)	1628 (52)	460 (15)
I try to meet the guidelines for eating portions of fruit and vegetables a day	498 (16)	1515 (49)	611 (20)	435 (14)	64 (2)
I try to limit how much saturated fat I eat	687 (22)	1522 (49)	626 (20)	253 (8)	35 (1)
I try to limit how much salt I eat	953 (31)	1320 (42)	534 (17)	272 (9)	44 (1)

Well over half of respondents, 64% strongly agree or tend to agree that they try to eat 5 portions of fruit and vegetables a day. 71% strongly agree or tend to agree that they try to limit the amount of saturated fat they consume. Whilst 73% strongly agree or tend to agree that they try to limit the amount of salt they consume. These figures are all indicators that consumers are trying to achieve a healthy balanced diet.

To gain a better insight into consumer understanding of the nutritional content of foods, respondents were asked to tick whether biscuits, sausages, chicken breast, fresh fruit and vegetables, hard cheese and lean ham had high levels of saturated fatty acids and/or high levels of salt. With 6 food items and 2 questions on each (high sat fat/salt) respondents could get 12 correct answers. Results are shown below.

Table 41. Answers to healthy eating knowledge questions

	percentage of households		
Looking at the following list, please tick those that you believe usually have high levels of saturated fat or salt.	yes	no	Correct answer
Biscuits (Usually has high levels of saturated fat)	72	28	yes
Biscuits (Usually has high levels of salt)	41	59	no
Sausages (Usually has high levels of saturated fat)	84	16	yes
Sausages (Usually has high levels of salt)	58	42	yes
Chicken breast (Usually has high levels of saturated fat)	12	88	no
Chicken breast (Usually has high levels of salt)	10	90	no
Fresh fruit & vegetables (Usually has high levels of saturated fat)	3	97	no
Fresh fruit & vegetables (Usually has high levels of salt)	5	95	no
Hard cheese(Usually has high levels of saturated fat)	75	25	yes
Hard cheese (Usually has high levels of salt)	36	64	yes
Lean ham (Usually has high levels of saturated fat)	14	86	no
Lean ham (Usually has high levels of salt)	56	44	yes
None of the above (Usually has high levels of saturated fat)	4	96	no
None of the above (Usually has high levels of salt)	8	92	no

There were high levels of correct answers for fruit and vegetables and for chicken, tending to be in the 90% range. Around two thirds of people were wrong in thinking cheese is not high in salt, and 44% were wrong in thinking lean ham is not high in salt. In general there was good understanding about which products were high in saturated fat but poor understanding about salt.

Table 42. Knowledge about healthy eating

Number of correct answers	Number of households	Percentage of households
1	0	0
2	1	0
3	1	0
4	46	1
5	28	1
6	344	11
7	425	14
8	786	25
9	748	24

10	546	17
11	182	6
12	16	1
Total	3123	100

7.2. Actively Seeking a healthy balanced diet

Results (% in brackets)							
	I haven't given this any thought (n)	I don't want to do this (n)	I am thinking about doing this (n)	I am doing this (y)	I am doing this but not as much as I'd like (n/y)	I have done this before but I am no longer doing it (n)	Not applicable – I don't buy this food item
Seek Healthy	278 (9)	56 (2)	210 (7)	1539 (49)	1020 (33)	20 (1)	0 (0)

Almost half of respondents, 49% claim to be seeking a healthy balanced diet and 33% are doing this but would like to do more. The tables below show the barriers and drivers for trying to ensure a healthy balanced diet.

7.3. Behaviours

We obtained data on the main nutritional elements of the foods that people in the survey had purchased over the previous twelve months. From this data we were able to estimate 5-a-day fruit and vegetable consumption, saturated fatty acids intake and salt intake. Energy and other key nutrients may be investigated in time.

Although we already have very good estimates of average intake per person across the UK it is worth examining the key intakes as measured in this survey to ensure that they are consistent. The real value is when we link these purchasing behaviours to people's attitudes.

5-a-day fruit and vegetable consumption

We have data on total fruit, vegetable and pure fruit drink purchases per household per month. As we also know the number of people in the household per month we are able to calculate purchases per person within each household.

We calculated that respondents purchased on average 2.3 portions of fruit and vegetables per person per day. The distribution of how many portions of fruit and vegetables households buy is shown in the table below.

The quantity of fruit and vegetables purchased is clearly only an indicator of that consumed. Other research by WRAP has shown that fruit and vegetables are often wasted, and some households will supplement purchased fruit and vegetables with produce that they grow themselves in gardens or on allotments. Also no account is taken of food eaten out. Nevertheless we proceed with the analysis of this data on purchases of fruit and vegetables because correlations with attitudes may still reveal useful patterns.

Table 43. Average 5 A DAY scores

Portions per person per day	Number of households	Percentage
1	535	17
2	912	29
3	683	22
4	399	13
5	271	9
Over 5	323	10
Total	3123	100

This data underestimates purchases. It suggests that only 19% of households achieve 5 or more portions per person per day but we know from more reliable sources that the percentage of people achieving 5 A DAY is higher. Correlations on purchasing behaviour with attitudes will remain valid, although it has been assumed that under-reporting is spread across all households.

Department of Health guidelines are for a portion size of 80 grams for adults. Therefore an individual must have purchased at least 400 grams of fruit and vegetables per day to achieve 5 portions. This analysis only covers fruit and vegetables brought into the household as part of food shopping. It also excludes fruit and vegetables contained in composite food purchases such as ready meals. No account has been taken of children's portion sizes, wastage or under reporting.

Andrew Leicester (Oldfield, IFS Working Paper W09/09) compared Kantar household panel estimates with Family Food estimates and showed that Kantar underestimate fruit and vegetable purchases by around 25% compared to Defra's Family Food report. The gap (based on weighted figures) ranges from 14% for oils and fats to 30% for fruit. Shoppers are encouraged to scan barcodes on pre-printed booklets they are given by Kantar though we can expect that this is more of an inconvenience. This estimate of 2.3 portions is lower than expected given Family Food estimates just under 4 portions per person. However we can still analyse the Kantar data for correlations but must take care not to interpret the amounts as realistic.

Sodium

Government guidelines recommend that adults should consume no more than 6 grams of salt per day. Salt = sodium x 2.5, so this is equivalent to an intake of 2.4 grams of sodium per day.

From the data, we found that respondents purchased foods with a sodium content of 2.36 grams per person per day, excluding table salt. Even with under-reporting this is almost as high as the recommended level. The distribution is shown in the table below. Family Food estimated that the sodium content of food purchases for the household in 2009 was 2.50 grams per person per day, which indicates under-reporting in the Kantar data of sodium by about 6%.

Table 44. Average sodium content of food per person per day

sodium per person per day (g)	Number of households	Percentage
0-1	255	8
1-2	1012	32
2-3	956	31
3-4	482	15
4-5	228	7
Over 6	190	6
Total	3123	100

Saturated fatty acids

The Government guideline for saturated fatty acids is that intake should account for no more than 11% of food energy intake. On average, respondents percentage of food energy from saturated fatty acids was 14.8%. Under-reporting is less of an issue with this measure because it is a ratio of two elements of purchases, saturated fatty acids and energy intake. Family Food estimates a similar percentage of energy to be coming from saturated fatty acids.

Kantar data enables estimates of extremely high and extremely low percentages of energy from saturated fatty acids among consumers, because Kantar purchase data covers a full twelve month period for each household. Looking at the distribution of households, we can see that 95% of respondents obtain between 10 and 20% of food energy from saturated fatty acids.

Table 45. Average percentage of food energy from saturated fatty acids

% of food energy intake from saturated fatty acids	Number of households	Percentage
0-5	1	0
5-10	79	3
10-15	1755	56
15-20	1221	39
20-25	66	2
25-30	1	0
Total	3123	100

The table below also shows intake of saturated fatty acids in grams per person per day. It is recommended that men should consume no more than 30g per day and women no more than 20g. This data shown below is subject to the full effects of underreporting. Although this contains the diets of children who need and consume less saturated fatty acids, only 35% of respondents consumed on average over 30g of saturated fatty acids per day.

Table 46. Average saturated fatty acids content of food per person per day

Saturated fatty acids per person per day (g)	Number of households	Percentage
0 - 10	196	6
10 - 20	866	28
20 - 30	964	31
30 - 40	618	20
40 - 50	297	10
50 - 60	107	3
60 - 70	42	1
70 - 80	20	1
80 - 90	7	0
90 - 100	3	0
Over 100	3	0
Total	3123	100

Further analysis might look at how intake of saturated fatty acids changes throughout the year. Looking at the overall diet would also be interesting, e.g. how does the amount of protein, carbohydrate, etc. in the diet effect the amount of saturated fatty acids and sodium consumed.

Data from the attitudes survey tells us that most respondents (73%) consider a health balanced diet to be important and actively seek to buy the right food. The behaviours data tells us that they are not fully succeeding. According to their food purchases this group achieve 2.5 portions of fruit and vegetables per day on average, which rises to 3.6 after allowing for 30% under-reporting - well below 5 A DAY. Their food purchases also tells us that this group exceeds the government recommendation on saturated fatty acids (11% of food energy). When it comes to sodium this group appears at first to be within the government recommendation of not more than 2.4 grams per person per day on average for adults (equivalent to 6g of salt) and less for children, but when we allow for underreporting they will certainly exceed the recommendation, and all of this is excluding discretionary salt added in cooking or at the table.

Fruit and vegetable purchases vary depending on whether people claim to seek to buy food that forms part of a healthy balanced diet, but neither saturated fatty acids nor sodium do. We can conclude that seeking a healthy balanced diet when food shopping is done most successfully in terms of fruit and vegetables. However all three measures vary depending on the importance people attach to a healthy balanced diet and their ability to implement these messages.

Table 47. Linking attitudes and behaviours to healthy eating

How does consumer attitude to healthy eating translate into behaviours?	3123 Respondents			
How important is it the food you buy forms part of a healthy balanced diet?	Very/Quite important 2538 (81%)		Neither/Not very/Not at all 585 (19%)	
When shopping do you actively seek products that will ensure a healthy balanced diet?	Yes 2288 (73%)	No 250 (8%)	Yes 271 (9%)	No 314 (10%)
Average portions of fruit and vegetables per person per day	2.5 portions per person per day	1.9 portions per person per day	2.0 portions per person per day	1.6 portions per person per day
Number of households achieving 5-a-day	53% of households	35% of households	38% of households	26% of households
Average sodium intake per person per day	2.37 grams of sodium per person per day	2.38 grams of sodium per person per day	2.31 grams sodium per person oer day	2.33 grams sodium per person per day
Percentage of energy from saturated fatty acids	14.6% energy from saturated fatty acids	14.6% energy from saturated fatty acids	15.0% energy from saturated fatty acids	15.0% energy from saturated fatty acids

Nineteen per cent of households claim don't rate healthy diet as important. This group split fairly evenly into those who claim to actively seek healthy foods and those who don't. Those that actively seek a healthy balanced diet achieve more fruit and vegetables than those that don't. Those that don't actively seek and don't attach importance are the lowest purchasers of fruit and vegetables.

Seventy three percent of households say it is important that their food forms part of a healthy balanced diet and that they claim to actively seek healthy foods. This group perform significantly better for fruit and vegetables achieving 0.5 portions per person per day more than any other group.

Actively seeking products that will ensure a healthy diet appears to translate to fruit and vegetables but not to saturated fatty acids or sodium.

Importance of a healthy balanced diet is linked to lower intake of saturated fatty acids but to higher intake of sodium.

7.4. Barriers and Drivers

Those asked about barriers were those claiming not to seek. Those asked about drivers were those claiming to seek to purchase healthy foods.

The main barriers for not wanting to ensure a healthy balanced diet are: not wanting to give up food they like (37%), too expensive (30%) and not being able to resist less healthy food (30%).

There are many drivers for trying to ensure a healthy balanced diet. It's cost effective to eat healthily (46%) liking the taste (41%). Respondents also want to ensure they enjoy a treat from time to time (64%) and being able to cook in healthy ways (50%).

Table 48. Barriers to healthy balanced diet

Barriers (% in brackets)	
I don't like the taste of healthy food	113 (7)
I don't know how to cook healthy food	68 (4)
I don't want to give up the foods I like	584 (37)
Healthy foods are too expensive	476 (30)
Healthy food doesn't keep as long	208 (13)
I can't resist less healthy food	475 (30)
I would feel self-conscious eating healthy food in front of others	10 (1)
I buy the same food out of habit and don't think about diet	385 (24)
Other / None of the above	275 (17)

Table 49. Drivers for a healthy balanced diet

Drivers (% in brackets)	
I really like the taste of healthy food	1047 (41)
I know how to cook in healthy ways	1270 (50)
I ensure I still enjoy a treat from time to time	1640 (64)
It's not expensive to eat healthily	1175 (46)
I don't like the taste of less healthy food	231 (9)
I would feel self conscious eating unhealthy food in front of others	140 (5)
I buy mostly healthy food out of habit	802 (31)
Other / None of the above	195 (8)

We now look at the barriers and drivers depending on attitude to the issue.

The largest barrier is, 'not wanting to give up the foods I like'. This barrier is greater among those who claim not to care about having a healthy diet. Habit and taste also appear as greater barriers for those who claim not to care. Those who do care are more likely to claim that healthy food tastes good and that they know how to cook in healthy ways. They also are more likely to say 'it's not expensive' and that 'it is a habit to buy healthy foods'. Not wanting to be seen eating unhealthy foods is a larger factor that not wanting to be seen eating healthy foods.

Table 50. Barriers and drivers of Healthy food purchasing depending on attitude

	important issue		not important	
	not seeking	seeking	not seeking	seeking
percentage of sample in group	8	73	10	9
Barriers				
I don't like the taste of healthy food	6		10	
I don't know how to cook healthy food	6		3	
I don't want to give up the foods I like	30		36	
Healthy foods are too expensive	28		30	
Healthy food doesn't keep as long	11		8	
I can't resist less healthy food	23		22	
I would feel self-conscious eating healthy food in front of others	1		0	
I buy the same food out of habit and don't think about diet	33		44	
Other / None of the above	18		11	
Drivers				
I really like the taste of healthy food		43		21
I know how to cook in healthy ways		51		35
I ensure I still enjoy a treat from time to time		65		59
It's not expensive to eat healthily		48		31
I don't like the taste of less healthy food		9		7
It would feel self conscious eating unhealthy food in front of others		6		2
I buy mostly healthy food out of habit		33		17
Other / None of the above		7		15

The sample splits between the four columns depending on their responses to the importance question and the actively seek question. Those actively seeking were asked drivers questions. Those not actively seeking were asked barrier questions.

8. Sustainable fish

Sustainably sourced fish is key to ensuring that stocks do not decline to dangerously low levels and that the ecosystem upon which the fishery depends is maintained. Fish species, fishing method and location of fishing all contribute to whether a fish is from sustainable stock. To make the analysis more understandable and straight forward, only MSC logo fish are considered. This will be used as a proxy for all sustainable fish.

The project wanted very specifically to link attitudes and behaviours, and in the case of sustainable fish the purchase data provided by Kantar can't identify whether a product carried the MSC logo. Further work would enable this link to be made by compiling a list of barcodes of products that carry the MSC logo and matching barcodes against the purchase data. It has not been done for this analysis which does not include a link between attitudes and behaviour for sustainable fish.

8.1. Attitudes

At present only attitude data is available. Behaviour data will follow in due course.

Table 51. Results on understanding and knowledge

	Results (%n brackets)				
	Strong agree	Tend agree	Neither	Tend disagree	Disagree
I have some understanding of what is meant by sustainable fishing	493 (16)	1681 (54)	555 (18)	286 (9)	108 (3)
Retailers should ensure that the fish and shellfish they offer comes from a sustainable source)	1030 (38)	1276 (47)	398 (15)	18 (1)	7 (0)
Higher value ranges in supermarkets, such as 'taste the difference' or 'finest' use sustainable fish and shellfish	168 (6)	576 (21)	1678 (61)	266 (10)	41 (2)
I do not know how to tell if fish and shellfish comes from sustainable stocks	225 (8)	982 (36)	957 (35)	472 (17)	93 (3)

70% strongly agree or tend to agree that they understand the issues around sustainable fish. However, 84% strongly agree or tend to agree that retailers are responsible and should ensure that fish is from sustainable stocks and only 1% tend to disagree or disagree. 79% strongly agree, tend to agree or neither agree nor disagree that they know how to tell if fish is from a sustainable source.

Table 52. Actively seeking MSC fish

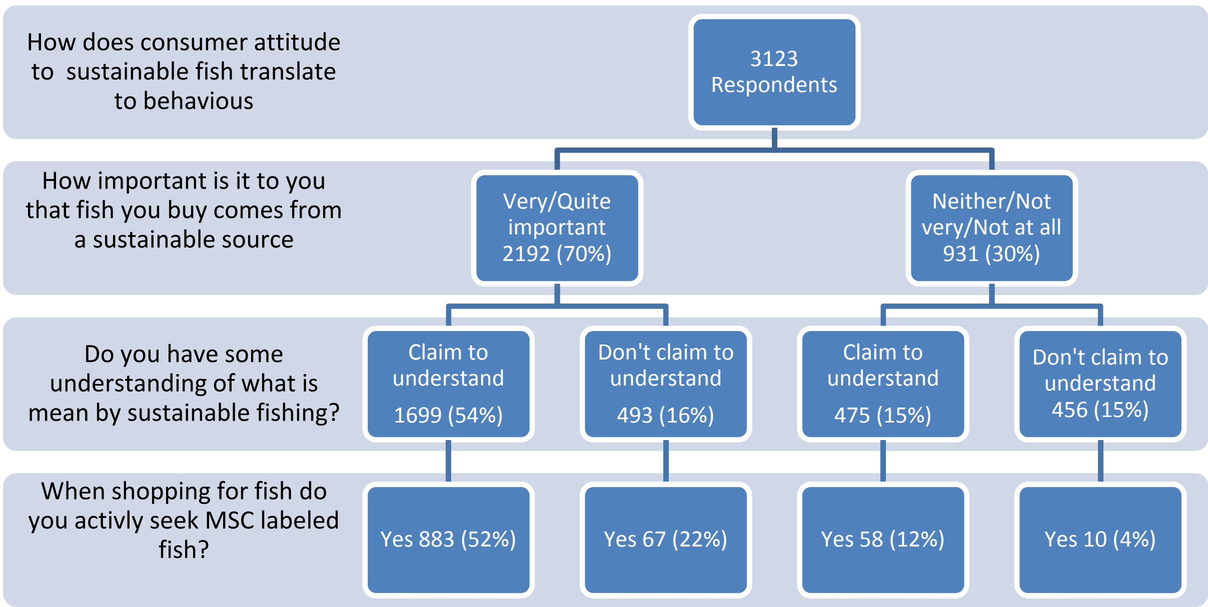
	Results (% in brackets)						
	I haven't given this any thought	I don't want to do this	I am thinking about doing this	I am doing this	I am doing this but not as much as I'd like	I have done this before but I am no longer doing it	Not applicable – I don't buy this food item
I actively seek to buy fish and shellfish labelled as sustainable by Marine Stewardship Council (MSC)	895 (33)	40 (1)	286 (10)	430 (16)	588 (22)	27 (1)	463 (17)

16% seek MSC fish, 22% are doing this but would like to do more.

8.2. Behaviours

We do not currently have any purchase information on MSC fish. Kantar collect information on fish sales but cannot identify MSC and non MSC fish. Defra have been collecting barcodes of MSC labelled fish from manufacturers and supermarkets. These will be mapped to the barcodes collected by Kantar and then we will be able to calculate the proportion of MSC fish purchased.

Table 53. Attitudes and Behaviours towards sustainably sourced fish



Seventy per cent of shoppers claim it is important or very important that fish they buy comes from a sustainable source. However twenty two percent of these shoppers (493 out of 2192) don't claim to understand what is meant by sustainable fishing. This group of people who care but don't understand forms 16% of the population.

Those who don't claim it to be important that fish comes from a sustainable source are split half and half into those that claim to understand and those that claim not to understand. In all 31% (15% + 16%) of shoppers don't claim to understand what is meant by sustainable fishing.

There is a clear link between considering the issue important, claiming to understand and seeking. Of those citing importance and understanding, 52% claim to be seeking to buy fish from sustainable sources. At the other extreme of those not citing importance or an understanding, only 4% claim to be seeking to buy fish from sustainable sources.

8.3. Barriers and Drivers

The main drivers for this are: supporting sustainable fish stocks (80%), feeling good (49%)

46% do not seek MSC fish (of which 33% haven't given it any thought). The main barriers are: not having heard of the MSC logo (37%), too expensive (24%), habit (24%)

Table 54. Barriers to buying MSC produce

Barriers (%)	
It is too expensive for my budget	449 (24)
I don't care whether fish is sustainable	35 (2)
I don't think it will taste as nice	17 (1)
I buy the same fish out of habit and don't think about other issues	445 (24)
I have not heard of the Marine Stewardship Council (MSC) label	676 (37)
MSC fish does not include the species I like	16 (1)
MSC fish is not available where I shop	121 (7)
I buy other sustainably sourced fish	153 (8)
Other / None of the above	316 (17)

Table 55. Drivers to buying MSC produce

Drivers (%)	
There isn't much difference in price	79 (8)
I believe the sustainability of fish is an important issue	817 (80)
Sustainable fish tastes nicer	105 (10)
I always buy MSC labelled fish out of habit	77 (8)
It makes me feel good to know that I have helped to sustain fish stocks with my purchase	500 (49)
Other / None of the above	54 (5)

We now look at barriers and drivers depending on attitude. Not all the sample were asked about seeking of sustainably sourced fish. Those who claimed not to understand the issue were not asked these questions, but the vast majority claimed some understanding of the issue (2729 out of 3123) and were asked the questions.

Almost one third of respondents (32%) rate the issue important, claim to understand the issue and claim to seek MSC products. Few respondents think there is little difference in price suggesting price is an issue. Those claiming not to fully understand are more likely to cite taste as a driver. The feel good factor is the most important driver and is higher among those who claim an understanding. A large number of those who claim not to fully understand indicated that there is some other reason influencing them to seek.

Table 56. Drivers of MSC produce depending on attitude

percentages of group citing barrier/driver	important issue		not important	
	not fully understand	understand issue	not fully understand	understand issue
	seeking	seeking	seeking	seeking
percentage seeking	22	52	4	12
percentage of sample	2	32	0	2
There isn't much difference in price	6	8	0	12
I believe the sustainability of fish is an important issue	51	83	40	81
Sustainable fish tastes nicer	18	10	0	3
I always buy MSC labelled fish out of habit	6	8	10	2
It makes me feel good to know that I have helped to sustain fish stocks with my purchase	30	51	30	41
Other / None of the above	22	4	30	5

Almost one third of the sample (30%) rate the issue as important and claim to understand but don't seek to buy MSC products, suggesting lack of awareness of the MSC logo. Only about 15% cite price as a barrier and this varies little with importance and understanding. About one third of non-seekers claim not to have heard of the MSC logo, with larger proportions claiming this among those rating the issue as important. Habit is cited by almost 25% of non-seekers as being a barrier.

Table 57. Barriers of MSC produce depending on attitude

percentages of group citing barrier/driver	important issue		not important	
	not fully understand	understand issue	not fully understand	understand issue
	not seeking	not seeking	not seeking	not seeking
percentage not seeking	78	48	96	88
percentage of sample	9	30	9	15
It is too expensive for my budget	13	14	18	15
I don't care whether fish is sustainable	2	0	6	2
I don't think it will taste as nice	1	1	2	0
I buy the same fish out of habit and don't think about other issues	24	19	18	25
I have not heard of the Marine Stewardship Council (MSC) label	36	41	24	33
MSC fish does not include the species I like	0	1	0	0
MSC fish is not available where I shop	3	4	1	2
I buy other sustainably sourced fish	2	6	1	1
Other / None of the above	6	7	13	7

9. Environmental sustainability of food

The environmental side of food sustainability is hard to define but also harder to track using the purchase information we have. We do not always know where food has come from, how it was grown or how it was transported. All these factors, plus others, combine to determine how environmental sustainability of the food.

As there is no clear food item to track for this theme, we took the decision not to ask a question on whether respondents are seeking a certain food item. Instead we asked the segmentation questions from previously established Defra pro-environmental behaviours work along with additional questions on food waste, reasons for buying organic food and willingness to change elements of the diet

9.1. Attitudes

There are 17 segmentation questions which are used to allocate individual into the seven pro-environmental segments. The individual questions can reveal some strong opinions and are presented here.

Table 58. Responses to the pro-environmental questions

	Results (%)					
	Strong agree	Tend agree	Neither	Tend disagree	Disagree	Don't know
The effects of climate change are too far in the future to really worry me	3	13	27	33	23	1
It's not worth me doing things to help the environment if others don't do the same	3	15	20	37	24	1
If things continue on their current course, we will soon experience a major environmental disaster	9	34	35	13	5	4
It's only worth doing environmentally-friendly things if they save you money	2	8	28	38	23	1
People who fly should bear the cost of the environmental damage that air travel causes	8	27	36	18	8	2
It's not worth Britain trying to combat climate change, because other countries will just cancel out what we do	6	18	26	30	18	2
I don't pay much attention to the amount of water I use at home	3	14	20	34	28	1
The Earth has very limited room and resources	26	40	27	4	2	2
Being green is an alternative lifestyle, it's not for the majority	4	21	32	31	11	1

Continued…

Table 57 - Responses to the pro-environmental questions (Continued)

	Results (%)					
	Strong agree	Tend agree	Neither	Tend disagree	Disagree	Don't know
It would embarrass me if my friends thought my lifestyle was purposefully environmentally friendly	1	3	25	39	31	1
I would only travel by bus if I had no other choice	9	30	23	21	16	1
People have a duty to recycle	39	43	14	3	2	0
The so-called 'environmental crisis' facing humanity has been greatly exaggerated	6	16	35	24	15	4
For the sake of the environment, car users should pay higher taxes	3	10	29	31	26	2
I find it hard to change my habits to be more environmentally-friendly	1	15	36	34	13	0
We are close to the limit of the number of people the earth can support	13	28	36	10	3	10

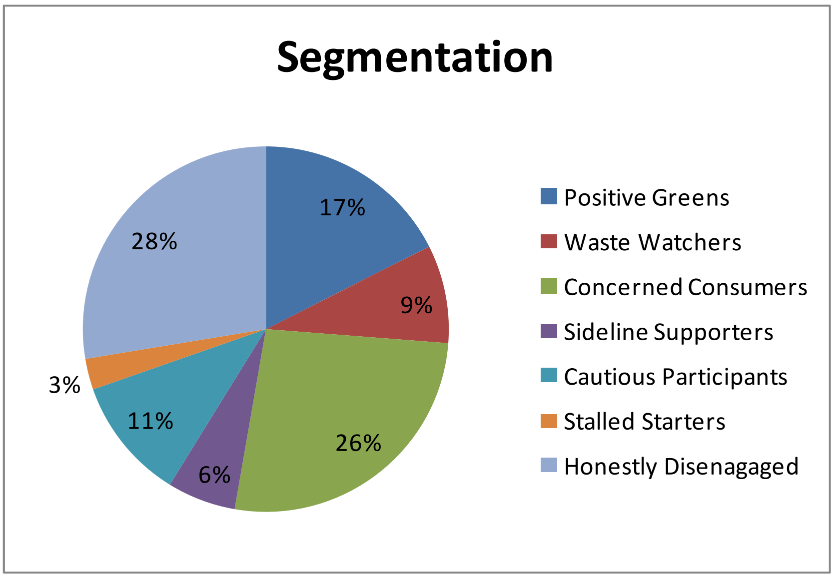
	I'm happy with what I do at the moment	I'd like to do a bit more to help the environment	I'd like to do a lot more to help the environment	I don't know
Which best describes how you feel about your current lifestyle and the environment	53	38	6	3

Stand out results from the questions are:
65% strongly agree or tend to agree that the earth has limited resources
82% strongly agree or tend to agree that people have a duty to recycle
61% strongly disagree or tend to disagree that it's only worth doing environmentally friendly things if it saves you money
57% strongly disagree or tend to disagree that car uses should pay higher taxes for the sake of the environment
62% strongly disagree or tend to disagree that they don't pay much attention to home water usage
53% are happy with what they currently do for the environment
75% report that they waste either hardly any, a small amount or no food waste

Using the Defra segmentation model, the respondents fitted into the segments as shown below. For more information on what these segments mean see the report on the Defra website here http://archive.defra.gov.uk/evidence/social/behaviour/index.htm and view the segmentation descriptions on page 41 onwards.

Table 59. Segmentation by Defra Environmental Model

Segment	Positive Greens	Waste Watchers	Concerned Consumers	Sideline Supporters	Cautious Participants	Stalled Starters	Honestly Disengaged
Freq	548	271	828	189	339	86	862
percentage	17	9	26	6	11	3	28



9.2. Food waste

A question on food waste was also asked, this was taken from WRAP and is used in their tracker surveys (along with other questions) to gauge consumer attitudes to food waste. Results shown below indicate that 75% of respondents believe they throw away either a small amount, hardly any or no food.

Table 60. Food waste beliefs about behaviour

% of sample	Quite a lot	A reasonable amount	Some	A small amount	Hardly any	None	Don't Know
Thinking about a typical week, how much uneaten food – including fresh, processed, cooked and leftover food - would you say you generally end up throwing away (either in a compost bin, ordinary bin, council collection, down the sink or fed to pets etc)?	2	6	17	28	39	8	1

In the WRAP tracker survey March 2010, 86% of the people surveyed reported that they threw away a small amount, hardly any or no uneaten food. In the WRAP survey 51% believed they threw away hardly any food compared to 39% in this research.

"Household Food and Drink Waste in the UK" (November 2009, WRAP) estimates the total amount of food waste to be 8.3 million tonnes annually of which 5.3 million is avoidable waste. This is the equivalent to 330 kg per year for each household in the UK, or just over 6 kg per household per week. The way the data was collected means it is not possible to identify households with no food waste.

9.3. Organic food

Respondents were asked whether they would consider buying organic food (yes/no). 52% reported that they would. They were then asked why they would buy organic food. The results (shown below) indicate that there is no one clear reason why people eat organic food. Eating organic food for animal welfare reasons is high on the consumer agenda, as well as eating it for health and environmental reasons.

Table 61. Reasons for eating organic food

	Why eat organic? (%)
For animal welfare	563 (35)
For the environment	725 (45)
For the nutrition value	807 (50)
For health reasons	739 (46)
Other reason	269 (17)

9.4. Willingness to change diet

Respondents were asked if they would be willing to change their diets if it would help the environment. The data showed a real divide with most people being noncommittal and opting for maybe.

Table 62. Willingness to change diet

	yes	maybe	no
Would you be willing to change your diet to have less impact on the environment?	465 (15)	2193 (70)	465 (15)

Those who answered yes/maybe were then asked if they would be willing to cut down on certain items. Confectionery was the item most respondents were very or fairly willing to give up with 76% of respondents ticking this. An element of wanting to eat a better diet may also be playing a role in this choice. 62% of respondents were very or fairly willing to give up red meat, whilst 36% were very or fairly willing to give up dairy. This suggests that the majority of people are open to the idea of changing their diet.

Table 63. Willingness to change elements of the diet

% of respondents	Very willing	Fairly willing	Not very willing	Not at all willing
Red meat	17	46	28	9
Pork	18	46	29	7
Chicken	6	30	44	20
Dairy	7	38	41	14
Confectionery	26	50	19	5

9.5. Behaviours

It is difficult to track purchasing behaviours towards the environmental sustainability of food because environmental labelling of food is limited and the Kantar data doesn't record which products carry environmental labels. This report analyses attitudes to environmental sustainability but does not attempt to establish a link between attitudes and purchasing behaviours. Data is available on the purchases of bottled water, red meat, organic meat and fruit and vegetables which could be analysed in future studies.

10. Further work

This report covers preliminary findings only. Much of the behaviour data has not yet been analysed, for example: size of weekly shop, predominant shop, and price paid. All of the attitudinal data has been presented but only Animal Welfare attitudes have been analysed in depth with a full segmentation linked to the engagement scale. Further analysis possibilities include:

Further segmentation analysis

Segmentation analysis on animal welfare attitudes and behaviours revealed that one third of people would be engaged with the issue but are inhibited by barriers. Similar analyses could be done for ethical foods, healthy eating, British seasonal purchasing, and possibly for sustainable fish. We would be able to show whether those with barriers for animal health exhibit the same behaviour on the other issues. This could lead to a more general segmentation in terms of engagement. We could explore the possibility of constructing an indicator of consumer engagement to sustainable foods.

Price Analysis

Carry out an analysis of price paid to see how much more people paid for our range of sustainable foods and, where we have carried out a segmentation, to see how price paid for sustainable foods varies over the segments. Of particular interest would be the Budget Watchers segment and the extent to which we could gauge how much of a price differential is required to stop them buying sustainable foods.

Bar Code Identification of MSC fish Products

We could complete the data on purchases of MSC (Marine Stewardship Council) fish products and analyse against attitudes. The project started to construct a list of most MSC labelled products with assistance from the main supermarkets and the main producers but the work has not been completed. This bar code list would then be matched against Kantar data on food purchases which, because it is gathered by re-scanning food purchases, includes the bar codes. Simple analysis of the attitude behaviour gap could be done and possibly a more in depth segmentation analysis. This work could lead to an indicator for the Food Strategy. This work could establish a methodology for gathering data on purchases of products carrying other types of food labels.

Defra Pro-Environment Segments

The report already showed that Budget Watchers and Habit Buyers come from a cross section of the Defra pro-environment segments while the other segments are linked to some extent with particular segments from the Defra pro environment segmentation. We could look at food purchasing for each of the Defra pro environment segments to show the extent to which the purchasing behaviour towards sustainable food matches the segment. We could compare the pro-environmental segmentation with the attitudes and behaviours to other themes in the project.

Attitude to Food Waste, Organic foods, Willingness to Change Diet

Questions on waste, organic food and willingness to change diet were asked and are presented in the report in terms of percentages responding in different ways. We could analyse these data against the attitudes and behaviours within the specific themes in the project.

Predominant Shop

We gathered data on predominant shop and average size of weekly shop which could be analysed to find patterns. We could quantify the extent to which consumers are engaged with sustainable food by their predominant shop. This analysis will only show an association between engagement and shop rather than a causality, i.e. can't say that it is the shop's responsibility when it may be the consumers responsibility in choosing the shop.

Out of Season Purchasing

The data enables us to identify fruit and vegetables purchased when out of season in Britain. The report has not covered this, instead focusing on in-season purchasing. Investigation of out-of-season purchasing would enable estimates of attitudes against purchases of strawberries in the winter.

11. References

Defra. (January 2008). *A Framework for Pro Environmental Behaviours.*

Defra. (November 2010). *Family Food in 2009.*

Defra. (January 2010). *Food 2030.* Defra.

Food Standards Agency. (2008). *Consumer Attitudes Survey.*

Foresight. (2007). *Tackling Obesities: Future Choices.* Department for Business, Innovation and Skills (BIS) .

Kantar. (on-going). *Household Worldpanel.*

Oldfield, A. L. (IFS Working Paper W09/09). *An Analysis of Consumer Panel Data.* Institute for Fiscal Studies and University College London.

Sustainable Development Commission. (December 2009). *Setting the Table: Advice to Government on priority elements of sustainable diets.*

The Strategy Unit. (July 2008). *Food Matters, Towards a Strategy for the 21st Century.* Cabinet Office.

The annexes are in separate document

Annex 1 – animal welfare segmentation analysis

Annex 2 Demographics of the animal welfare segmentation

Annex 3 The attitude questionnaire

Annex 4 The Behaviour and Demographic data

Annex 4: The behaviour and demographic data variables